THE IRON TRADE REVIEW

VOLUME XXXVIII CLEVELAND, OHIO, JUNE 29, 1095 NUMBER 26

STEEL BARS

ARE SUBJECT OF MUCH DISCUSSION BY BUYERS AND SELLERS.

Heavy Orders for Rails—Wage Scales will Probably be Amicably Adjusted.

Orders for steel rails continue to add larger tonnages than do those for any other kind of finished material, although the demand for structural shapes and for plates is strong. The principal orders for rails from steam railroads and electric lines are as follows: Vanderbilt system, 25,000 tons; Wabash, 5,000; Toledo and Chicago Interurban, 5,500; Long Island, 2,500; Chicago, Milwaukee & St. Paul, 300; trolley lines in Cleveland district, 5,000; trolley lines in the east, 10,000.

The Steel Bar Situation.

There is keen interest concerning steel bars. Most of the large buyers made the contracts which expire July 1 at 1.30c Pittsburg, while some who came into the market later contracted at 1.40c and still others at 1.45c. The present price is 1.50c. Buyers have been holding off, refusing to make contracts, and have intimated that 1.40c would be a satisfactory price. The principal manufacturers have, however, declared that there will be no concession and that 1.50c will be the price for new business. Buyers are endeavoring to have old contracts extended, but sellers have positively refused to make any extension of contracts at 1.30c. Some extensions of contracts at higher prices may be granted, but the principal producer has not yet made even this concession and is not yet ready to announce what it will do.

Lower Prices for Pig Iron.

Pig iron has touched lower prices and both Bessemer and basic are now selling at $14, Valley furnace. This price was made on a sale of 1,000 tons. It has also leaked out that, about three weeks ago, a sale of malleable was made, the iron to be shipped from the Valley to Detroit, at the very low price of $13.80, furnace. This was an exceptional price at that time and is lower than any announced price for the week, but it shows that at least one interest was more anxious for business than was suspected. Southern iron is now selling freely at $11.50 and it is rumored that $11.25 has been named.

Inquiries are More Numerous.

In spite of the lower prices for pig iron and of the fact that the report that the United States Steel Corporation would buy Bessemer pig iron for July delivery is without foundation, the pig iron situation is not devoid of favorable indications. Inquiries are increasing, buyers are showing much more interest and, in the case of many foundries, it is clear that their supplies of pig iron are nearly exhausted and that they must soon replenish them. Reports concerning the foundry business are encouraging. Many foundrymen are delaying buying until after they take inventories, which will be completed early in July.

Shapes are in Strong Demand.

Although in some finished lines there is little buying, this is not true of others, particularly shapes and plates. On some sizes of channels and beams, the principal producer can not give deliveries until November and even December, while the mills of smaller companies can do little, if any, better. Among the orders for plates is one for 5,000 tons at Chicago.

Blast Furnace Capacity.

In Eastern Pennsylvania where there has been great activity of blast furnaces, several have been blown out and it is expected that others in that section will soon be idle. On the other hand, the Steel Corporation will probably soon blow in some of its idle stacks in Ohio and Pennsylvania.

Sheet and Tinplate Wage Scales.

The conference of representatives of the Amalgamated Association and the American Sheet & Tin Plate Co. is now in progress. The employes are apparently of the opinion that the company is anxious for an excuse to sever all relations and the prospect is that, on account of that opinion, the demands of the company will be complied with.

Late Pittsburg News.

(By Special Telegram.)

PITTSBURG, June 28.—John R. Davis, a departmental superintendent of the Duquesne plant of the Carnegie Steel Co., has resigned and accepted a position with the Pottsville Iron Co.

A. E. Maccoun has been appointed superintendent of the blast furnace plant of the Edgar Thomson Steel Works of the Carnegie Steel Co., succeeding Herman A. Brassert, resigned.

The conference to adjust the sheet and tin plate wage scales between the Amalgamated Association and the American Sheet & Tin Plate Co. opened at the Handergrift building this morning. The present scale expires at midnight Friday and unless an agreement is reached before that time, all of the union sheet and tin plate mills of the leading interests and the independent manufacturers will close.

Death of C. A. Otis, Sr.

C. A. Otis Sr., former mayor of Cleveland, O., and founder of the Otis Iron & Steel Co., which subsequently became the Otis Steel Co., Ltd., died at the home of his son, Chas. A. Otis Jr., Cleveland, June 28. His condition assumed a more serious aspect since an operation for appendicitis last Monday.

The Spring Valley Iron & Ore Co., Spring Valley, Wis., announces that beginning July 1, Pickands, Brown & Co., Chicago, will be exclusive selling agents for the Spring Valley brand of pig iron.

THE WEEK IN IRON CENTERS.

PITTSBURG.

Bessemer and Basic Decline in Price—The Wage Conference.

OFFICE OF *The Iron Trade Review*,
521 PARK BUILDING, June 27.

The mid-summer lull is now upon the iron and steel trade and there has been practically no buying of raw or finished materials during the week. Large jobbers and consumers have permitted their stocks to run low for the mid-summer stock taking and not until about the middle of July will there be a resumption of buying. Pig iron has sought lower levels during the week and both Bessemer and basic are now down to $14, Valley furnace. This price was made on the sale of 1,000 tons of each for western shipment, and it is probable that a slightly better price would have been secured if it had been for shipment into this market. Southern iron has sold on the basis of $11.50 Birmingham for No. 2 in small lots and it is probable that this could be shaded from 25 to 50 cents a ton on a desirable tonnage. Merchant furnaces in the valleys, despite the fact that their iron is not moving out, continue to accumulate large stocks and none of the furnaces now in operation contemplate blowing out at an early date. The United States Steel Corporation will not buy Bessemer for July delivery, as its furnaces now in blast have sufficient capacity to meet all current demands and the increased demand will be met by the blowing in of the idle and banked stacks.

All of the plants of the Republic Iron & Steel Co., Youngstown, O., including the Bessemer steel works and iron mills, will close down on Friday night and will remain idle until July 10. Practically none of the plants in this district will shut down, however. The works of the Carnegie Steel Co. and the Jones & Laughlin Steel Co. will continue in full on account of the large tonnage of heavy sections that has been booked.

This week the two tin plants of the American Sheet & Tin Plate Co., New Castle, Pa., will close for repairs. These plants contain 50 mills and on the first of the month fully 50 percent of the tin plate producing capacity of the largest producer will be idle. Today the Amalgamated Association sheet and tin plate conference committee meets with the officials of the American Sheet & Tin Plate Co. for the purpose of adjusting the sheet and tin plate wage scales which expire on Friday night. It is believed that an agreement will be reached, as the Amalgamated Association will make concessions that will prove attractive. It is believed that the limit of output will be removed and that big concessions will be made in the wage scale. No agreement was reached with the independent manufacturers last week as they did not want to bind themselves to any agreement awaiting the outcome of the agreement with the American Sheet & Tin Plate Co.

Pig Iron.—The market continues very quiet and prices are lower. We note the sale of 1,000 tons each of basic and Bessemer at $14 Valley furnace, for western shipment, which is the lowest price reached on the present downward movement. Valley furnaces are holding No. 2 foundry at $14.50 and there is little demand at this price. Southern iron is held at $11.50 Birmingham, or $15.85 Pittsburg, and a few small lots for early delivery have gone at this price. The foundries throughout this district have a large tonnage booked and are carrying small stocks of iron and it is almost certain that they will be compelled to come into the market about the middle of July, and the only reason that they are not now covering is that they are awaiting the outcome of the present downward movement. We revise quotations are follows:

Bessemer, Valley	$14 00 to 14 25
Bessemer, Pittsburg	14 85 to 15 10
No. 1 Foundry	16 00 to 16 25
No. 2 Foundry	15 35 to 15 60
Gray Forge, Pittsburg	14 60 to 14 75
Basic, Valley	14 00 to 14 25
Basic, Pittsburg	14 85 to 15 10

Ferro-Manganese.—The market is quiet and prices are practically unchanged. We quote foreign ferro, 80 percent, at $49 to $50 Pittsburg, in carload lots.

Steel.—There is not much buying for prompt delivery and few of the steel works are anxious to dispose of open-hearth billets, despite the attractive premiums offered. We quote Bessemer billets at $22.50 to $23 and open-hearth $24 to $24.50. Sheet bars are held at $24.50 to $25. There is little demand for rods, which are quoted at $33 to $34.

Plates.—There is no change in the plate situation. Most of the mills have orders on their books for four to five months delivery on open-hearth plates while deliveries on Bessemer can be made in less than 60 days. Specifications from steel car works continue very heavy. Quotations are unchanged as follows: Tank plates, ¼ in. thick, 6¼ in. to 14 in., inclusive, 1.50c f. o. b. mill Pittsburg; over 14 in. up to 100 in., 1.60c. Extras are as follows per 100 lb.: Flange and boiler steel, 10c; marine, A. B. M. A., and ordinary fire box, 20c; still bottom, 30c; locomotive firebox, 50c; plates over 100 in. up to 110 in. in width, not less than 5c extra; plates 110 in. to 115 in. wide, not less than 10c extra; 115 to 120 in., 15c extra; plates 120 in. to 125 in. wide, not less than 25c extra; plates 125 in. to 130 in., not less than 50c extra; plates 130 in. wide, not less than $1 extra; plates 3-16 in. thick, 10c extra; gauges 7 and 8, 15c extra; No. 9, 25c extra. Five cents extra for less than carloads. Terms net cash in 30 days, and for all points of delivery in the United States except Pacific Coast.

Structural Material.—Local mills are fairly swamped with orders and on certain small sizes deliveries cannot be made in less than three to four months. On the heavier sections the tonnage is relatively not as great. Quotations are unchanged as follows: Beams and channels up to 15 in., 1.60c; over 15 in., 1.70c; angles, 3 x 2 up to 6 x 6, 1.60c; zees, 1.50c; tees, 1.65c; angles, from 3 to 16 in., 1.60c; universal and sheared plates, 6¼ to 14 in., inclusive, 1.50c; over 14 in., 1.60c base.

Bars.—The iron bar market is active and none of the mills are shading 1.60c Pittsburg. We make the following quotations: Bar iron 1.60c Pittsburg; hoops 1.65c, and bands 1.50c, both taking hoops and band extras respectively. Bessemer steel bars, 1.50c; open-hearth steel bars, 1.50c; plow and cultivator, $1.50c, net; channels, angles, zees and tees, under 3 in., 1.65c. The following differentials are maintained on steel: Less than 200 lb. of a size and not less than 1,000 lb., 10 cents advance; less than 1,000 lb. of a size, 30 cents advance.

Rails and Track Material.—Next week the Youngstown, O., plant of the Carnegie Steel Co. will resume operations on rails and the week following the Republic Iron & Steel Co. will place its new rail mill in operation. This company already has 20,000 tons booked and from present indications there will be little difficulty in operating in full through the remainder of the year. Light rails continue low and are in little demand. Quotations are unchanged as follows: Fifty lb. and over 500 tons, $28; car lots and less than 500 tons, $30; less than car lots, $32; light rails, 16 lb., $25 to $25.50; 20 lb., $24 to $24.50; 25 to 45 lb., $22 to $22.50; angle bars for standard sections, 1.25c; spikes, 1.70c.

Sheets.—A large number of the sheet mills will close this week for the regular mid-summer shutdown. Unless an agreement is reached with the Amalgamated Association on the sheet and tin plate wage scale all of the mills will close on Friday night, but it is generally believed that an agreement will be reached without much trouble. There

is little buying and on new business 2.30c for 28 gauge is about the minimum. We quote: No. 30, 2.70c; No. 29, 2.60c; No. 28, 2.30c; No. 27, 2.20c; Nos. 25-26, 2.20c; Nos. 23-24, 2.15c; Nos. 18-20, 2.10c; No. 16, 2.10c; Nos. 12-14, 2.05c; No. 9, 2c; No. 8, 1.95c; Galvanized, No. 30, 4.30c; No. 29, 3.80c; No. 28, 3.40c; No. 27, 3.20c; Nos. 25-26, 3c; Nos. 23-24, 2.80c; Nos. 18-20, 2.65c; No. 16, 2.50c.

Muck Bar.—We note the sale of 200 tons of neutral bars at $26.50 Youngstown. This material is for prompt delivery.

Skelp.—The market continues quiet and there have not been enough transactions to establish a market. We quote grooved steel skelp at 1.45c to 1.50c and sheared 1.50c to 1.55c. Grooved iron is held at 1.60c and sheared 1.65c to 1.70c.

Wire and Wire Nails.—The market continues quiet and concessions continue to be reported. This is an off season, however, in the wire trade and the mills are all curtailing production and the concessions that are being made are natural at this season of the year. We quote: Wire nails, jobbers' carload lots, $1.80; retailers' carload lots, $1.85, and less than carloads, $1.95; painted barb wire, $1.95 for jobbers in carloads; retailers' carloads, $2, and less than carloads, $2.10, with 30c for galvanizing. Annealed smooth fence wire is held at $1.65, with the usual differentials to retailers for carloads and less than carloads. Quotations are all f. o. b. Pittsburg, 60 days, with 2 percent discount for cash in ten days. Iron and steel cut nails, $1.70 to $1.75.

Merchant Steel.—Demand for the higher grades of steel is heavy and all of the mills in this district are operating at their fullest capacity. Demand for shafting is strong owing to the increase in the number of industrial establishments that are under erection throughout the country. We quote: Cold rolled and ground shafting, 50 percent off in carload lots, and 45 off in less than carloads, delivered in base territory; tire steel, 1.70c; open-hearth spring steel, 2.25c to 2.50c; sleigh shoe flat, 1.50c to 1.55c; smooth finished machinery steel, 1.70c to 1.75c; toe calk, 2c to 2.05c.

Pipes and Tubes.—The merchant pipe market is quiet, as jobbers are permitting their stocks to run low for the semi-annual stock taking. Demand for boiler tubing, however continues heavy, as the railroad buying thus far this year has broken all records. While locomotive tubes have been in biggest demand, the stationary boiler manufacturers are now buying more heavily than for some time. Discounts to consumers, carload lots, f. o. b. Pittsburg, plus freight to destination according to Tube Rate Book,

	Steel. Black.	Steel. Galv.	Iron. Black.	Iron. Galv.
⅛ and ¼ inch	67	51	65	49
⅜ to 6 inches	75	65	73½	63½
⅜ and ½ inch	71	59	69	57
7 to 12 inches	70	55	68½	53
Extra Strong Plain Ends.				
⅛ to ¼ inch	60	48	58	46
⅜ to 4 inches	67	55	65	53
4½ to 8 inches	63	51	61	49
Double extra strong plain ends, ⅛ to 8 inches	56	45	54	43

MERCHANT BOILER TUBES, CARLOADS, 22 FEET AND UNDER.

	Steel.	Iron.
1 to 1½ inches	44	41
1 ¾ to 2½ inches	56	41
2½ inches	58	46
2¾ to 5 inches	64	53
6 to 13 inches	56	41

Less than carloads 2 points less.

Old Material.—The market continues very quiet and as the pig iron market is declining scrap consumers will not buy until they believe the bottom has been reached. We quote gross tons, as follows: Heavy melting stock, $14 to $14.50; No. 1 wrought, $14.50 to $15; re-rolling rails, $14; bundled sheet scrap, $12 to $12.50; busheling scrap, $12 to $12.25; turnings, $9 to $9.25, and cast scrap, $13 to $13.25.

Coke.—The prices asked by coke producers for the last half does not interest furnace operators and no contracts have yet been closed. Spot furnace coke is slightly firmer, one sale of several hundred cars for July delivery having been made on the basis of $2, whereas ten days ago $1.85 to $1.90 could have been done. Foundry coke is also easier and is held at $2.25 to $2.40 for early shipment or through the last half of the year. More than 1,000 ovens have been drawn in the Connellsville region, of which about 700 are operated by the H. C. Frick Coke Co. The banking and blowing out of furnaces is the direct cause of this coke curtailment. During the week ending June 17, the upper region produced 258,026 tons and the lower region 82,300 tons. This is a slight falling off from the production of the previous week.

CHICAGO.

Increased Interest in Pig Iron, but still Little Buying.

OFFICE OF *The Iron Trade Review*,
1164 MONADNOCK BLOCK, June 27.

Were it not for the active interest that is displayed in pig iron, the local market would possess no feature of unusual importance and might be characterized as a lifeless one. This interest is not reflected in any noticeable tonnage placed with furnaces, for buying has been light in the week under review, but in a large and growing volume of inquiry for deliveries commencing in July. Only a small portion of these inquiries represent bona fide needs but under the policy foundrymen have followed, to invite quotations on round lots and offer only a fraction at the prices named, they have succeeded in pushing Southern values to lower levels. Several furnaces are said to have withdrawn from the market with the avowed purpose of piling iron rather than selling at $11.50 Birmingham for No. 2, which is the price today. Local irons have resisted more successfully the bear campaign that it being waged by melters, and producers are clinging firmly to the quotations of a week ago. The trading in finished material continues of a desultory character. The inventory season is at hand, and it is doubtful if there will be much further buying for the next four to six weeks. Specifications are very heavy, however, consumers loading mills with shipping orders before the expiration of their low-priced contracts. On light products reasonably prompt deliveries can be given, but on universal plates the leading producer is eight months behind; on large beams and channels, two months; smaller sizes, four to five months, and on angles three to four months. No improvement is noted in sheets, and despite the active inquiry prices continue very ragged. Bar iron is stronger in tone though in small demand. Other products are without perceptible change.

Pig Iron.—It is different to determine what this market is because of the many conflicting rumors that are current regarding sales and prices and the general non-committal attitude of sellers in speaking of their quotations or transactions. That Southern iron is weaker is admitted by every one, but the distance the market has receded in the past week is not so easily learned. The lowest price confirmed by the seller, is $11.50 Birmingham, which was named on a lot of 1,500 tons accepted from an Aurora foundry for deliveries running through the last half, though there are rumors that another round lot of iron was taken at $11.25 Birmingham. Trading is light and not at all proportionate with the heavy inquiry. This aggregates many thousands of tons but there will be much paring of figures when the melter is ready to buy. Northern irons are moving slowly, local stacks having little tonnage to offer for nearby deliveries. The only transaction of importance was the purchase by a local wire mill of 2,000

tons of basic iron for July delivery. It is understood this order was placed with a Valley furnace at a price equivalent to $11.75 Birmingham, which nets $15.40 Chicago. Local irons are without change as to price, the minimum being $16.25 Chicago for No. 2 Foundry, or $16 furnace. Valley furnaces are invading this market with lower offers, one seller being reported to have closed up a round tonnage at from $16 to $16.25 Chicago. We have revised our figures, and quote as follows:

Lake Superior charcoal	$16 50 to 17 00
Northern Foundry No. 1	16 75 to 17 00
Northern Foundry No. 2	16 25 to 16 50
Northern Foundry No. 3	15 75 to 16 00
Northern Scotch Foundry	17 00 to 17 25
Ohio Strong Softeners No. 1	16 80
Ohio Strong Softeners No. 2	16 30
Southern Foundry No. 1	15 65 to 15 90
Southern Foundry No. 2	15 15 to 15 40
Southern Foundry No. 3	14 65 to 14 90
Southern Foundry No. 4	14 40 to 14 90
Southern No. 1 Soft	15 65 to 15 90
Southern No. 2 Soft	15 15 to 15 40
Southern Gray Forge	14 15 to 14 40
Southern Mottled	14 15 to 14 40
Southern Silveries (4% to 6% Silicon)	17 15 to 17 65
Jackson Co. Silveries (6% to 8% Silicon)	19 30 to 20 30
Jackson Co. Silveries (8% to 10% Silicon)	20 30 to 21 30
Alabama and Georgia Car Wheel	20 65
Malleable Bessemer	16 00 to 16 50
Basic Iron	15 40

Billets.—Demand is of small proportions owing to the limited supply of local makers. Prices are without change, and we quote open-hearth billets, axle or forging, $31 to $32 Chicago; Bessemer or open-hearth, rerolling, $26; wire rods, $33 Pittsburg; chain rods, $34 Pittsburg.

Bars.—A fair volume of inquiry for deliveries in the last half has been felt by makers of steel bars in the week under review. None of this has assumed a contract shape as yet, and it is not expected there will be much of a buying movement for several weeks. Implement makers generally take advantage of the dull summer months to take invnetory of their stocks and many are already engaged in this work. Specifications continue to come in very freely, consumers placing all the material in stock their warehouses will hold because of the low prices at which this was bought. Bar iron grows stronger in tone, though demand continues of light proportions. On ordinary sized lots, 1.55c Chicago is asked by local mills, but on large or unusual quantities from 50 cents to $1 a ton lower can be obtained. Other quotations are as follows: On carload lots, mill shipments, Chicago delivery: Bessemer and open-hearth bars and bands, 1.66½c base, half extras; soft steel angles, less than 3 x 3, 1.76½c; hoops, 1.81½c base, full extras. Store trade is active and prices are firm. We quote bar iron, 1.90c base, full extras; soft steel bars and bands, 1.85c to 1.95c base, full extras; soft steel angles, channels and tees, under 3 in., 1.95c to 2.05c; hoops, 2.20c base, full extras.

Sheets.—There is a good inquiry for both black and galvanized sheet from all branches of the consuming trade. Prices, however, remain irregular, the independent mills being anxious for business and willing to take it at from $1 to $2 less than is asked by the leading maker. We continue to quote carload lots, mill shipments, Chicago delivery, as follows: Blue annealed sheets, Nos. 9 and 10, 1.81½c; Nos. 11 and 12, 1.86½c; Nos. 13 and 14, 1.91½c; Nos. 15 and 16, 2.01½c. On box annealed, one pass, cold rolled, we quote Nos. 18 and 20, 2.21½c; Nos. 22 and 24, 2.26½c; Nos. 25 and 26, 2.31½c; No. 27, 2.36½c; No. 28, 2.46½c; No. 29, 2.56½c; No. 30, 2.66½c. We quote on lots from warehouse stocks as follows: No. 10, 2.10c to 2.15c; No. 12, 2.15c to 2.20c; No. 14, 2.20c to 2.25c; No. 16, 2.30c to 2.35c; Nos. 18 and 20, 2.50c to 2.55c; Nos. 22 and 24, 2.55c to 2.60c; No. 26, 2.70c to 2.75c; No. 27, 2.75c to 2.85c; No. 28, 2.85c to 2.95c; No. 29, 3c to 3.05c. Galvanized sheets, mill shipments, Chicago delivery, are quoted as follows: Nos. 12 and 14, 2.46½c; No. 16, 2.61½c; Nos. 18 and 20, 2.76½c; Nos. 22 and 24, 2.91½c; No. 26, 3.11½c; No. 27, 3.31½c; No. 28, 3.51½c; No. 29, 3.76½c. Jobbers' prices on lots from store are as follows: Nos. 10 to 14 inclusive, 3.10c; No. 16, 3c; Nos. 18 and 20, 3.10c; Nos. 22 and 24, 3.25c; No. 26, 3.50c; No. 27, 3.70c; No. 28, 3.95c; No. 29, 4.40c; No. 30, 4.85c.

Structural Steel.—Specifications in the week under review were very heavy, consumers ordering shipment of all the material under contract not yet delivered. Leading mills are eight months behind in deliveries on universal plates, two months on large beams and channels and four months on smaller sizes, while from three to four months are required for the delivery of angles. Jobbers report a brisk movement from their stocks; for mill shipments premiums are cheerfully paid. We quote, Chicago delivery, as follows: Beams and channels, 3 to 15 in., inclusive, 1.76½c; angles, 3 to 6 in., ¼ in. and heavier, 1.76½c; angles larger than 6 in., or one or both legs, 1.86½c; beams larger than 15 in., 1.86½c; zees, 3 in. and over, 1.76½c; tees, 3 in. and over, 1.86½c; with the usual extras for cutting to exact lengths, punching, coping, bending or other shop work. We quote prices from store as follows: 2.10c to 2.25c for angles, beams and channels, base sizes, with 2.20c to 2.30c for 18, 20 and 24-in. beams; tees and zees, 2.15c to 2.25c. These prices are for either random lengths or cut to specifications in excess of 5 ft.

Plates.—Orders for about five thousand tons of plates were placed with the local mill last week. No deliveries were guaranteed as the mill is oversold for the year. Specifications are very heavy, the entire output of the plant going into immediate consumption. Independent mills are in a better condition to give quick deliveries than the leading interest, and these are booking considerable tonnage on this account. Prices are very firm. We quote carload lots, mill shipments, Chicago delivery, as follows: Tank steel, ¼ in. and heavier, 6⅛ in. to 100 in., 1.76½c base; flange steel, 1.86½c base; marine steel, 1.96½c base, all full extras. Plates, 3-16 in. thick, $2 extras; gauges 7 to 8, $3 extra; No. 9, $5 extra. Less than carload lots, $5 extra. Store quotations are as follows: Tank steel, ¼ in. and heavier, up to and including 72 in. wide, 2c; over 72 in. wide up to 100 in., 2.10c; over 100 in. wide, usual mill extras, 3-16 in. up to but not including 72 in. wide, 2.10c; 3-16 in., 72 in. wide, 2.35c; flange steel, 25c extra; heads, 25c extra.

Merchant Pipe.—Specifications are of good volume. New business is light and independents who are suffering for tonnage are offering to shade prices. We quote carload lots, random lengths, f. o. b. Chicago, as follows:

MERCHANT PIPE.

	Steel. Black. Percent.	Steel. Galv. Percent.	Iron. Black. Percent.	Iron. Galv. Percent.
⅛ to ¼ inches	65.85	49.85	65.85	47.85
⅜ to ½ inches	69.85	57.85	67.85	55.85
¾ to 6 inches	73.85	63.85	72.35	62.35
7 to 12 inches	68.85	53.85	67.35	51.85

PLUGGED AND REAMED.

	Steel.	Iron.
1 to 4 inches	71.35 61.35	69.85 59.85

EXTRA STRONG PIPE.

⅛ to ⅜ inches	58.85	46.85 56.85 44.85
½ to 4 inches	65.85	53.85 63.85 51.85
4½ to 8 inches	61.85	49.85 59.85 47.85

DOUBLE EXTRA STRONG PIPE.

½ to 8 inches	54.85	43.85 52.85 41.85

Boiler Tubes.—No cessation is noted in the heavy demand that has been felt by local jobbers for several weeks past. Some mills are delinquent in deliveries owing to the heavy tonnage on their books. It is possible, however, to get immediate shipment at regular prices from other mills. We quote carload lots, Chicago delivery, as follows:

BOILER TUBES.	Steel.	Iron.	Seamless.
1 to 1½ inches	40.35	37.35	53.00
1¾ to 2¼ inches	54.35	39.35	40.00
2½ inches	56.35	44.35	43.00
2¾ to 5 inches	62.35	51.35	
			Up to 4½ inches 50.50
6 to 13 inches	52.35	37.35	

Less than carload lots from store, as follows:

	Steel.	Iron.	Seamless Steel.
1 to 1½ inches, inclusive	40	35	42½
1¾ to 2¼ inches, inclusive	50	35	35
2½ inches, inclusive	52½	35	30
2¾ to 5 inches, inclusive	60	47½	42½

Rails and Track Supplies.—There is no lack of tonnage offered for heavy sections, and several additional orders were closed last week by local sellers. Light rails are quiet and specifications slow in coming forward. The movement in track supplies is brisk, the entire output of Western mills going into immediate consumption. We quote heavy sections, in 500-ton lots and over, f. o. b. mill, $28; less than 500 tons to carload lots, $30; less than carload lots, $32. Light rails are as follows: 12-lb. sections, $27; 16-lb., $26; 20 and 25-lb., $25; 30, 35, 40 and 45-lb. sections, $24, all f. o. b. Milwaukee mill. Track supplies, f. o. b. Joliet mill, angle bars, 1.40c to 1.50c; spikes, first quality, 1.75c to 1.80c; track bolts, 3¼ x ¾, with square nuts, 2.40c to 2.50c per lb., with hexagon nuts, 2.55c to 2.65c.

Merchant Steel.—There is nothing of interest to report regarding this product this week. Mills are flooded with specifications, while inquiry for new wants is coming forward in a gratifying manner. Prices are without change and we quote carload lots, mill shipments, Chicago delivery, as follows: Spring steel, 2.10c; sleigh shoe, flat sizes, 1.71½c; concave and convex, 1.86½c; cutter shoe, 2.35c; smooth finish machinery steel, 1.91½c; smooth finished tire, 1.86c; plow steel, 2.20c and upward, according to quality; toe calk steel, 2.21½c. Cold rolled shafting, 50 percent off in carload lots and 45 percent in less than carload lots. Crucible tool steel, 6½c to 8c; special grades of tool steel, 13c and upwards.

Cast Iron Pipe.—The only contracts of importance closed up in this market last week were that of the Oregon Short Line for 1,000 tons of 6 in. to 10 in. water pipe, and that of Traverse City, Mich. for 500 tons. We have revised our prices, and quote carload lots, Chicago delivery, as follows: 4-in., $29; 6-in. to 10-in., $28.50, 12-in. and larger, $28; gas pipe, $1 a ton higher.

Wire Products.—The local market is without material change. Jobbers are specifying freely against their old contracts but are buying no new tonnage to speak of. Prices are without change, and we quote on carload lots, as follows: Wire nails, $1.95; painted barb wire, $2.10; galvanized barb wire, $2.40; smooth annealed wire, $1.80; smooth galvanized wire, $2.10; polished staples, $2.05; galvanized staples, $2.35. Less than carload lots to jobbers are 5 cents higher than above prices. The retail trade is quoted 5 cents extra over the foregoing on carload lots, and 10 cents extra on less than carload lots. Bale ties are unchanged at 82½ and 5 percent to dealers on mixed car lots and 85 percent discount f. o. b. Waukegan, Ill., on straight carload lots.

Coke.—Trading has been light in the week under review. Prices are firm at $2.50 Connellsville ovens for standard 72-hour coke. Virginia and West Virginia cokes range from $2.25 and upwards at the ovens.

Old Material.—Scrap values continue to grow in strength. Trading is light and of a spasmodic nature, being limited to occasional small lots. We quote gross tons as follows:

Old steel rails (4 feet and over)	$13 00 to 13 25
Old steel rails (less than 4 feet)	12 50 to 13 00
Old iron rails	17 00 to 17 50
Relaying rails, subject to inspection	22 00 to 22 50
Old wheels	14 00 to 14 50
Heavy melting steel	12 00 to 12 50
Mixed country steel	10 00 to 10 50

The following quotations are for net tons:

No. 1 R. R. wrought	13 50 to 14 00
No. 2 R. R. wrought	12 50 to 13 00
Shafting	15 00 to 15 50
Dealers' forge, No. 1	10 50 to 11 00
Wrought pipe and flues	9 50 to 10 00
No. 1 cast, 150 lb. and less	12 50 to 13 00
No. 1 mill	8 50 to 9 00
No. 1 Busheling	9 50 to 10 00
No. 2 Busheling	8 00 to 8 50
Country sheet	7 00 to 7 50
No. 1 boilers, cut	9 00 to 9 50
Boiler punchings	12 50 to 13 00
Iron car axles	19 00 to 19 50
Steel car axles	14 50 to 15 00
Iron axle turnings	9 50 to 10 00
Cast borings	7 00 to 7 50
Mixed borings, etc.	7 00 to 7 50
Machine shop turnings	9 50 to 10 00
Railroad malleable	13 00 to 13 50
Agricultural malleable	11 00 to 11 50
Stove plate and light cast scrap	9 00 to 9 50
Old iron splice bars	15 50 to 16 00

CINCINNATI.

Trading is Limited and Northern and Southern Prices Lower.

June 27.

Pig Iron.—Trading has continued on a limited scale, with sales generally of small lots from a carload up to 50 tons, and these orders have not been plentiful. Inquiry has been moderate with the most conspicuous probable purchase a 500-ton lot at a point in Indiana, while one Ohio consumer wants 300 tons and another about 400 tons. A large stove manufacturer is out with a firm offer of $11 Birmingham for a fair tonnage. Prices have weakened and $11.50 Birmingham basis is rather freely quoted. It is intimated that this price could be shaded on a large attractive order. Some small lots have been sold at $11.75 and $12, showing that buyers are not all following the market closely. Northern irons are quoted at $14.50 for No. 2 foundry at furnace and in one instance $14.25 has been done. Some sales of Northern iron have been made as high as $15 for small lots. The market is exceedingly irregular and it is difficult to locate prices, as both Northern and Southern furnaces hold individual views and appear to be working independently. Grey forge and mottled iron continue dull and easy with quotations around $10 Birmingham. It is intimated that this price could be shaded in order to secure business. There has not been enough buying in the central territory to note what the competition between northern and southern iron will develop, but sales agencies appear to anticipate difficulty in placing southern iron in competition with the northern furnaces when the buying movement commences. It is generally believed that conditions in the iron trade are favorable to good business in the fall and winter and the belief is strong in some quarters that buyers will anticipate their wants with liberal orders when present contracts are worked out and buying actually commences. On the other hand, buyers are still holding off and the lack of orders is stimulating the furnace interests to eagerly seek such tonnage as may be booked, which, under present conditions, results in a sacrifice of prices. We revise quotations to conform to the development of the week. Quotations f. o. b. Cincinnati are as follows:

Southern Foundry No. 1	$14 75 to 15 25
Southern Foundry No. 2	14 25 to 14 75
Southern Foundry No. 3	13 75 to 14 25
Southern Foundry No. 4	13 50 to 14 00
Southern Foundry No. 1, soft	14 75 to 15 25
Southern Foundry No. 2, soft	14 25 to 14 75
Gray Forge	12 75 to 13 25
Northern Foundry No. 1	16 15 to 16 65
Northern Foundry No. 2	15 65 to 16 15
Northern Foundry No. 3	15 15 to 15 65
Southern Charcoal	19 25 to 19 50

Finished Material.—There seems to be no diminution in the demand in a jobbing way for structural shapes and the yards are low on stock and unable to get mill shipments forward. Steel bars are in fair demand and steady. Plates and sheets are quiet. Bar iron is inactive and easy, but not quotably changed. Bar iron is quoted at 1.55c; steel bars at 1.63c, half

extras, with dealers quoting 1.85c for iron and steel out of store. Galvanized sheets at 75 and 7½ percent off. We quote black sheets, No. 27, at 2.40c in car lots of 500 bundles. Black sheets out of store are selling as follows: No. 28, 2.70c; No. 27, 2.60c; No. 16, 2.20c; No. 14, 2.10c; No. 12, 2.05c; No. 10, 2c. Tank plates are firm and sell out of store at 2c for ¼ in. and 2.16c for 3-16, No. 8 and No. 10. Beams and channels are quoted at 2c from stock and angles at 2c to 2.05c for base sizes.

In merchant pipe the demand is moderate and the undertone of the market is easy. We quote f. o. b. Cincinnati:

MERCHANT PIPE.
(Basing Discounts.)

	Steel Pipe.		Guaranteed Wrought Iron Pipe.	
	Black. Percent.	Galv. Percent.	Black. Percent.	Galv. Percent.
⅛ and ¼ inches	65.35	49.35	63.35	47.35
⅜ and ½ inches	69.35	57.35	67.35	55.35
¾ to 6 inches	73.35	63.35	75.85	61.85
7 to 12 inches	68.35	53.35	66.85	51.35

Old Material.—The market is weak and some quotations are reduced. Dealers report but little business and present quotations could be shaded.

Coke.—Demand is improving, particularly for furnace coke, and some good sized contracts have been closed during the week. On some of these contracts the furnaces have preferred to buy on a sliding scale based on the price of pig iron rather than accept a low flat contract price for the coke. Furnace coke is quoted at $1.75 to $1.90 and foundry coke at $2.25 to $2.50 f. o. b. ovens.

Old No. 1 railroad wrought, net tons	$14 00 to 15 00
Cast machine and foundry, net tons	11 00 to 12 00
Old iron rails, gross tons	17 00 to 17 50
Old steel rails, gross tons	14 00 to 14 50
Old short lengths, gross tons	13 50 to 14 00
Old iron axles, net tons	20 00 to 21 00
Stove plate, net tons	7 00 to 7 50
Wrought turnings, net tons	9 00 to 10 00
Cast borings, net tons	6 00 to 6 50
Car wheels, net tons	13 00 to 13 50

CLEVELAND.

Prices Continue to Sag, but Inquiries Indicate a Buying Movement.

OFFICE OF *The Iron Trade Review*,
BROWNING BUILDING, June 28.

Iron Ore.—The shipment of ore this month has progressed steadily and it is confidently expected that the movement will be as large as that of May. It will be necessary for the May record to be maintained by every month for a half year in order to insure the handling of 30,000,000 tons. Freights are steady and no change is expected.

Pig Iron.—Prices are sagging, but the market is by no means devoid of hopeful signs. There is more inquiry, and evidence accumulates that buying of foundry iron will be begun soon after the foundries take their inventories, which will be during the first week of July. While some interests still decline to sell below $15, for No. 2 foundry at the furnace, others are perfectly willing to sell at $14.50. Cleveland furnaces are delivering to customers in the city at $15.25. A report is current that the steel corporation will buy Bessemer for July delivery.

Bessemer	$14 85 to 15 00
No. 1 Foundry	16 00 to 16 25
No. 2 Foundry	15 25 to 15 85
No. 3 Foundry	15 00 to 15 25
No. 2 Southern	15 35 to 15 85
Gray Forge	14 90 to 15 15
Gray Forge, Southern	13 75 to 14 25
Lake Superior charcoal	16 50 to 17 00

Finished Material.—The extent to which the mills are filled with orders is shown by the promises which one very large producer is making concerning delivery of structural material, as follows: 4, 5, 6, 7, 8, 9 and 10 in. channels, from late October to early December; 12 and 15 in. channels, October and November; 4 and 9 in. beams, September and October; 18, 20 and 24 in. beams, August and September; angles from 3 x 3 to 6 x 6, September and October.

Specifications on contracts for steel bars and other materials which are about to expire are coming in rapidly, as many customers have been notified that the contracts will not be extended. Bar iron is stronger and the shut downs of the mills this year will, as a rule, be shorter than usual, those of the Republic Iron & Steel Co. closing for only ten days. Prices range from 1.45c to 1.55c at the mill, the usual quotation at Youngstown being 1.55c. There is considerable cutting on boiler tubes, some quotations being about 15 percent below announced prices. Reports as to sheets are conflicting, but the principal producer reports improvement.

Cleveland jobbers are enjoying good business in nearly all materials.

Old Material.—The market during the past week has been dull, with no sales. There is an opinion in some quarters that the bottom has been reached and quotations will advance. Dealers are not selling on the prevailing low prices nor are the mills buying. There are no indications of a strong market for July. We quote gross tons, Cleveland delivery, as follows:

Old iron rails	$18 00 to 19 00
Old steel rails (over 6 feet)	12 50 to 13 50
Old steel rails (under 6 feet)	12 50 to 13 50
Old car wheels	14 00 to 14 50
Steel boiler plate	9 50 to 10 50
Steel axles	15 50 to 16 50
Malleable iron (railroad)	13 00 to 14 00
Malleable iron (agricultural)	12 00 to 13 00
Heavy steel	12 50 to 13 50

We quote as follows, net tons:

No. 1 R. R. wrought	$13 00 to 14 00
No. 1 busheling	11 50 to 12 50
No. 1 machine cast	12 00 to 12 50
Iron axles	19 00 to 20 00
Axle turnings	9 50 to 10 50
Wrought turnings (free from cast)	8 50 to 9 50
Grate bars	7 50 to 8 50
Pipes and flues	9 50 to 10 50
Tank iron	8 50 to 9 50
Hoop and band iron	7 00 to 8 00
Sheet iron	6 00 to 7 00
Wrought drillings	8 50 to 9 50
Stove plate	8 50 to 9 00
Cast borings	6 00 to 7 00

PHILADELPHIA.

Blowing Out of Blast Furnaces in Eastern Pennsylvania has Begun.

June 27.

A hopeful feature in the rather discouraging outlook is the closing down of blast furnaces, which has at last begun in Eastern territory. The Topton furnace was shut down last week, and that at Durham will be blown out early in July. The closing of several others is in contemplation, and July's pig iron production, from present appearances, will be materially smaller than that of June. This check in production, which is so essential if prices are to be maintained, will be accompanied by the elimination of small concerns unable to bear the strain of fierce competition. Pig iron prices are now admittedly near the point where, with an old-fashioned blast furnace, there is a small margin between profit and loss if the present prices of ore, fuel and labor remain as they are. The temporary disappearance from the field of these small competitors will thus mark for the good of the trade, whose chief trouble seems to be too great capacity.

Pig Iron.—Inquiries continue in fair volume, but no large sales are reported. There is a constant dribbling of small orders, for prompt delivery, as there has been for some weeks. There is no doubt that the great quantity of unsold Southern iron, 100,000 tons, hanging over the market is having its effect on buyers and the general situation. While most of this will doubtless go to the West, enough is expected to come East to keep prices depressed here. While Northern irons are believed to be pretty near to bedrock, still lower figures are looked for in the Southern product. This fact influences consumers, who continue to delay their orders in the hope of securing still

better terms. Many of these orders cannot be much longer delayed, but until they begin to make their appearance in considerable numbers no very radical improvement can be looked for. In the meantime prices continue weak, and may be quoted as follows:

No. 1X Foundry	$17 00 to 17 25
No. 2X Foundry	16 25 to 16 75
No. 2 Plain	15 75 to 16 00
Standard Gray Forge	15 00 to 15 25
Ordinary Gray Forge	14 50 to 14 75
Basic	16 00 to 16 25
Low phosphorus	20 50 to 21 00
Southern No. 2X, rail	16 00 to 16 25
Southern No. 2X, dock	15 25 to 15 50

Finished Material.—A noticeable easing up is reported from some mills, and orders, which formerly required several weeks, or even months, for their fulfilment, are now promised with a fair degree of promptness. This does not refer to the plate mills, but to those chiefly devoted to lighter lines. With the summer closing coming on there is no immediate disposition to change prices, wihch may be quoted at the following figures: Beams, channels and angles, according to specifications, 1.73½c to 1.85c; refined iron bars, 1.63½c to 1.80c; steel bars, 1.63½c to 1.70c; plates, 1.73½c to 1.80c.

Old Material.—For the first time in several weeks there is no important drop in the prices of scrap to be recorded. This may mean that they have touched bottom, and that future changes will show improvement. With the summer closing of many mills as a near prospect this turn for the better does not, however, seem likely to come soon. Some inquiries are reported, but there are few sales. These prices are quoted:

Old steel rails	$14 75 to 15 50
No. 1 steel scrap	14 50 to 15 00
Old steel axles	19 00 to 20 00
Old iron axles	21 00 to 22 00
Old iron rails	17 50 to 18 50
Old car wheels	14 00 to 15 00
Choice scrap, R. R. No. 1 wrought	16 00 to 16 75
No. 1 yard scrap	15 00 to 15 50
Machinery scrap	14 50 to 15 00
Low phosphorus scrap	19 00 to 20 00
Wrought iron pipe	12 00 to 12 50
No. 1 forge fire scrap	12 50 to 13 00
No. 2 forge fire scrap, ordinary	10 00 to 11 00
Wrought turnings	10 50 to 11 00
Axle turnings, heavy	12 00 to 12 50
Cast borings	8 00 to 8 50
Stove plates	9 50 to 10 00

NEW YORK.

Pessimism Tempered with Hope—Weakness in Pig Iron Continues.

OFFICE OF *The Iron Trade Review*,
ROOM 1315, No. 150 NASSAU ST., June 27.

Pig Iron.—The tendency in prices is still downward with the long expected buying movement not yet in evidence. Sales of foundry iron made during the past week show little increase in business and no improvement in prices. In some quarters of the local market a sanguine feeling prevailed due to the placing of one or two fairly large orders for special analysis foundry iron, but other producers have been disappointed by postponements on so many occasions that their views are frankly pessimistic. The most notable sales of the week were 1,000 tons of special analysis foundry iron for The International Steam Pump Co., Harrison, N. J., plant, and 1,300 tons to The Saco & Pettee Machine Co., of Newton, Upper Falls, Mass., and Biddeford, Me. In addition to these there were several small tonnages of various grades of Northern foundry iron at fair prices. These were, however, confined to carload, 50 and 100 ton lots to regular customers. It is understood that pipe companies are not in the market at present, having bought heavily some time ago. Quotations at tidewater are as follows:

Northern No. 1 Foundry	$16 50 to 16 75
No. 2 Foundry	15 75
No. 2 Plain	
No. 1 Southern Foundry	15 25 to 15 50
No. 2 Foundry	15 75 to 16 25
No. 3 Foundry	15 25 to 15 75
No. 4 Foundry	14 75 to 15 00

Sales of certificates have been few. Foundry pig iron warrants follow:

	Bid.	Asked.
July	14.80	15.25
August	14.75	15.25
October	15.00	15.25
February	15.20	15.35

Finished Iron and Steel.—The movement of finished material is fairly satisfactory, especially as far as the larger shapes are concerned. The demand for rails continues good. Sales of rails reported include 6,000 tons to the C. C. C. & St. L., 5,000 tons to The Wabash, 5,500 tons to the Toledo & Chicago Interurban, 2,500 tons to The Long Island R. R. The St. Paul contract was increased by 3,000 tons. The Vanderbilt system awarded orders aggregating 25,000 tons. Besides these there were very considerable orders from the trolley lines aggregating some 10,000 tons. In structural steel business of considerable importance for shapes is still pending, but there is some falling off in small orders. The order for the steel for the new engineering building has not yet been placed, and the bids for some 55,000 tons for the Manhattan bridge are expected to be advertised within a week or ten days. In addition to these inquiries about the building of the American Express Co., and for an extension of the Trinity building and a projected Plaza hotel. Small orders for plates and small steel bars to be placed during the next quarter are of no importance. Sheets, tin plates, pipe and wire products continue slow and easy with a feeling favorable to a revision of prices during the summer. We quote New York prices at tide water: Angles, 3 to 6 in. x ¼ in. and heavier, 1.74½c; beams, 3 to 15 in., 1.74½c; channels, 3 to 15 in., 1.74½c; beams, 18, 20 and 24 in., 1.84½c; tees, 3 x ¼ in. and heavier, 1.79½c; plates, carloads, tank, 1.74½c; flange, 1.84½c; marine and ordinary firebox, 1.94½c; refined iron bars, 1.60c; soft steel bars, 1.64½c to 1.67c; sheets in carload lots, New York, No. 28, black, 2.40c.

Old Materials.—There is still a fair demand of heavy steel, but in general the market for old material continues weak. There is some inquiry concerning wrought pipe and cast borings, but buyers are merely sounding the market. Quotations approximately, f. o. b. New York, are as follows:

Old iron rails	$21 00 to 22 00
Old steel rails, long lengths	14 50 to 15 00
Old steel rails, short pieces	14 00 to 14 50
Relaying rails	20 00 to 21 00
Old car wheels	15 00 to 15 50
Old iron car axles	21 00 to 22 00
Old steel car axles	18 50 to 19 00
Heavy melting steel scrap	13 50 to 14 00
No. 1 railroad wrought scrap	16 00 to 16 50
Iron track scrap	13 50 to 14 00
Wrought pipe	11 00 to 12 00
Cast borings	8 00 to 8 50
Wrought turnings	12 25 to 12 75

BIRMINGHAM.

Prices are Still Receding and Few Rolls are Being Made.

BIRMINGHAM, Ala., June 26.—The dullness in the Alabama pig iron market which has been reported now for the past four weeks is still on. Quotations are indeed weak, though the manufacturers report that there is no inclination to sell under $11.50 per ton for No. 2 foundry. There is very little iron being sold in this district. A number of old orders are being delivered. Rumors prevail today that No. 2 foundry iron is selling at $11.25, but manufacturers do not admit this. The production is holding up splendidly. The Woodward Iron Co. blew in its new furnace on the 22nd inst. and in a few days it is expected the machinery will have adjusted itself and the iron-maker will be producing a large quantity of iron. This furnace is equipped with the latest appurtenances and should have a daily capacity of between 300 and 350 tons of iron. This furnace is said to be built considerably on the scale of the Ensley

furnace of the Tennessee Coal, Iron & Railroad Co., which, during trials, has been breaking records in the way of production.

The Sloss-Sheffield Steel & Iron Co. will blow in its North Birmingham furnace in the next few days. This iron-maker was repaired and is now in condition to run many months when the torch is again applied. The Sloss-Sheffield Steel & Iron Co. has accumulated some iron, but the amount is not yet very extensive.

There is a scarcity of labor at the furnaces, mines and factories in this district. The statement is made that considerable of the scarcity of labor at the furnace plants has been caused by using the negroes and other men employed around the furnaces and coke ovens in the coal mines where union miners were formerly employed. Efforts to bring in labor for the furnaces and other iron works have not been so successful. A number of coal miners from Pennsylvania have been brought in recently, but there is still room for more coal diggers. The furnace labor sent to the mines will hardly ever return to the furnace work, the former job paying from $2 to $3 per day, while the furnace work only pays from $1 to $1.25 per day.

A sample casting of soil pipe has been manufactured at the plant of the Coosa Pipe & Foundry Co. at Gadsden. The announcement is made that the plant will be in full operation by the last of July. Col. T. G. Bush, president of the Alabama Consolidated Coal & Iron Co., who is interested in this concern, authorizes the statement that if the product of this plant finds a steady market the institution will be immediately doubled.

Much progress has been made on the cast iron pipe works being erected at Sheffield, and before many weeks the plant will be assuming shape. Another cast iron pipe plant is assured for Alabama, the details of the concern or its location being a matter of secrecy.

The statement is authorized that the rod, wire and nail mills of the Alabama Steel & Wire Co. will not be moved from Ensley. The plant is doing well, working on full time and finding a demand for all its product. The rumors were that the plant would be moved to Alabama City, near Gadsden, where the company has its steel plant. The Alabama Steel & Wire Co. has some excellent orders on hand for rod, wire and nails.

The Metal Market.

NEW YORK.

OFFICE OF *The Iron Trade Review,*
1164 MONADNOCK BLOCK, June 27.

Pig Tin.—Local trading has been slightly firmer owing to more extensive transactions in the London market. There was some disposition to trade in futures. Today's closings are: Spot, 30.55c to 30.70c; July, 30.40c to 30.60c; August, 30.30c to 30.50c; London, £139 12s 6d to £138 7s 6d. Arrivals 2,120 tons to date with 2,563 tons afloat.

Copper.—The market is without important changes. European melters have made considerable purchase of copper during the week and consumers here seem to be well covered for the next two months. Today's closings follow: Lake and electrolytic, 15c; castings 14¾c. London's closings today: Spot, and futures, £66 5s and £66 3s 9d. Exports for the month to date, 15,707 tons.

Lead.—The demand for all grades of pig lead has improved and prices are more firmly held. Today's quotations: 4.50c to 4.60c. St. Louis, 4.44½c to 4.47½c; London, £13 3s 9d.

Spelter.—The market continues slow and easy. Today's closings: Spot, 5.30c; July and August, 5.20c to 5.30c; London, £24.

Antimony.—Prices are higher, although the demand is light. Antimony is scarce and strong. Today's prices are: Cookson's and Hallet's 11½c to 12c; other grades, 11c to 11½c.

CHICAGO.

OFFICE OF *The Iron Trade Review,*
1164 MONADNOCK BLOCK, June 27.

The metal market is featureless this week, and so far as trading goes, is lifeless. Consumers are covering only for current wants and buying in small lots. Prices are without material change, and we quote as follows: Lake copper, 15c for carload lots, and 15¼c for less than carload lots. Casting copper, 14¾c for carload lots, and 15c for less than carload lots. Spelter is 5.25c for carload lots, and 5.50c for less than carload lots. Sheet zinc is 7¼c for carload lots of 600-lb. casks, and 7½c for less than carload lots. Pig tin, 31c for carload lots, and 31½c for less than carload lots. Pig tin, 31c for carload lots, and 31½c for less than carload lots. Pig lead, 4.45c for 50-ton lots; 4.50c for carload lots, and 4.60c for less than carload lots. Antimony, Hallett's, 12c, and Cookson's, 13c.

There is no change in old metals and prices are still weak. Local dealers' quotations are approximately as follows: Copper wire, 13c; heavy copper, 12¾c; copper bottoms, 11¾c; copper clips, 12½c; red brass, 11½c; red brass borings, 9½c; yellow brass, 8¼c; yellow brass borings, 7½c; pipe lead, 4c. Tea lead, 3.60c. Zinc, 3¾c.

WAGE CONFERENCE ADJOURNED.

The wage conference held between the independent sheet and tin plate manufacturers and the Amalgamated Association at Pittsburg last week was adjourned without any definite agreement on the sheet and tin plate scales. A conference was, however, arranged with the American Sheet & Tin Plate Co. and began at Pittsburg on Wednesday, June 28. The Amalgamated Association wage committee is in a mood to accept any fair proposal in their opinion for the adjustment of the scales and it is believed that an agreement will be reached before Saturday, July 1, when the present scale expires.

The Driggs-Seabury Ordnance Co., Sharon, Pa., has plans prepared for the erection of an erecting shop adjoining its present plant. The new building will be 240 ft. long and 60 ft. wide and will be used for assembling the limbers and caissons for the field guns. It is proposed to increase the capital of the company to $1,789,000 by issuing preferred stock to the amount of $600,000.

The United States Coal & Coke Co., one of the subsidiary companies of the United States Steel Corporation, has awarded contracts for the erection of 250 coke ovens in West Virginia. At works No. 8, 170 ovens will be erected and the remaining 80 will be built at plant No. 2. The main offices of this company are in Pittsburg and the operations are carried on by the officials of the H. C. Frick Coke Co. This company already has about 1,000 ovens in operation in this field and will ultimately have about 2,500.

At the annual meeting of the United States Mica Mining & Milling Co., held at the Chicago office, June 22, Frank W. Jones was elected president and Minona S. Fitz secretary and treasurer. W. C. Heimbuecher, the new member of the board, being elected vice president and general manager. Mr. Heimbuecher is well known in the hardware and iron trade. The company has arranged to install a large amount of additional machinery, including hydraulic presses.

THE IRON TRADE REVIEW

Devoted to the Machinery, Metal-Working and Foundry Trades, and Iron and Steel Manufacture.

PUBLISHED EVERY THURSDAY BY

THE PENTON PUBLISHING CO.

CLEVELAND, OHIO.

CHICAGO - - - - - 1164 Monadnock Block.
PITTSBURG - - - - - - 521 Park Building.
NEW YORK - - - - - - - 150 Nassau St.

Subscription, $3.00 per annum. To Foreign Countries, $4.50. Advertising Rates Furnished on Application.

Change of advertising copy must reach this office ten days preceding date of publication.

The Cleveland News Co., will supply THE IRON TRADE REVIEW through the regular channels of the American News Co.
European Agents, The International News Co., Breams Buildings, Chancery Lane, London, E. C., England.

ENTERED AT THE POST OFFICE AT CLEVELAND, O., AS SECOND CLASS MATTER

JUNE 29, 1905

WHY THEY WERE SUCCESSFUL.

An awful disaster like that of the wreck of the Lake Shore flyer at Mentor brings out the best and worst elements of human character. Many men seem to have latent in them tremendous forces, good in some, bad in others, which are discovered in their full effectiveness under only most unusual conditions. If the train was wrecked through malice, the fiend who did it was capable of wickedness so monstrous that the ordinary man can not comprehend it.

Turning from contemplation of such a crime, it is pleasant, even when grieving for the dead, to think of how Chas. H. Wellman passed his last hours. As he lay terribly burned near the scene of the wreck, his eyes so injured by the steam that it was necessary to cover them with a bandage, his thoughts were not of self. "I am fatally hurt," he said to friends eager to help him. "Look for others; they may need your attention more than I do." Later, before he would allow any surgical attention, he sent messages of love and cheer to his brother, with whom he had long been associated, and to his wife and children. An examination disclosed the fatal wounds which he knew had been inflicted, but his courage did not waver and with his own lips he was able to bid farewell to the devoted wife and little ones. Then, as morning dawned, he left them.

Could anything be more beautiful, more courageous, more expressive of the best than is in human character? And perhaps the most comforting thought is one that is irresistible—that men who die as Charles Wellman died could not do it unless they had lived nobly. Such a death is a means of calling attention to the fact that we do not know how much good there is in the world. Charles Wellman died nobly because he lived nobly. His life and that of Thos. R. Morgan, who was instantly killed, were splendid exemplifications of what honesty, energy, and ability to win the hearts of men will accomplish in business. Their careers were a striking refutation of the assertion sometimes heard that the personal equation is a small factor in business. These men were successful not merely on account of their brain power, which was by no means small, but also because they enjoyed the respect of all who knew them, had the loyal support of their employes and were loved by their friends.

FACILE PRINCEPS.

To his always complete and trustworthy statistics of the American iron trade, Mr. Swank has in his annual volume just issued added some very interesting supplementary statistics. A table of the pig iron production of the three great iron countries, the United States, Great Britain and Germany, shows the record from 1869 to the beginning of the present year. We observe that in 1869 the United States and Germany had a combined production less than half that of Great Britain; in 1902 the United States produced more than Great Britain and Germany combined. The United States led Germany throughout the period, although sometimes by but a slight margin. Germany did not pass Great Britain until 1903, but then acquired a substantial lead. We present the figures for the decade and recent years, Germany's production being in metric tons of 2,204.6 pounds, and the production of the other countries being in gross tons of 2,240 pounds:

	United States	Great Britain.	Germany.
1870	1,665,179	5,963,515	1,391,124
1880	3,835,191	7,749,233	2,729,038
1890	9,202,703	7,904,214	4,658,450
1900	13,789,242	8,956,691	8,520,541
1901	15,878,354	7,928,647	7,880,088
1902	17,821,307	8,679,535	8,529,900
1903	18,009,252	8,935,063	10,085,634
1904	16,497,033	8,562,658	10,103,941

As illustrating the steadiness of the British iron trade, it can be noted that in the last 30 years Great Britain's maximum pig iron production has been 9,421,435 gross tons, and her minimum 6,365,462 gross tons, the minimum being a trifle more than two-thirds the maximum. In 29 years the production of the United States increased eight times.

Improvements at Reading. Pa.

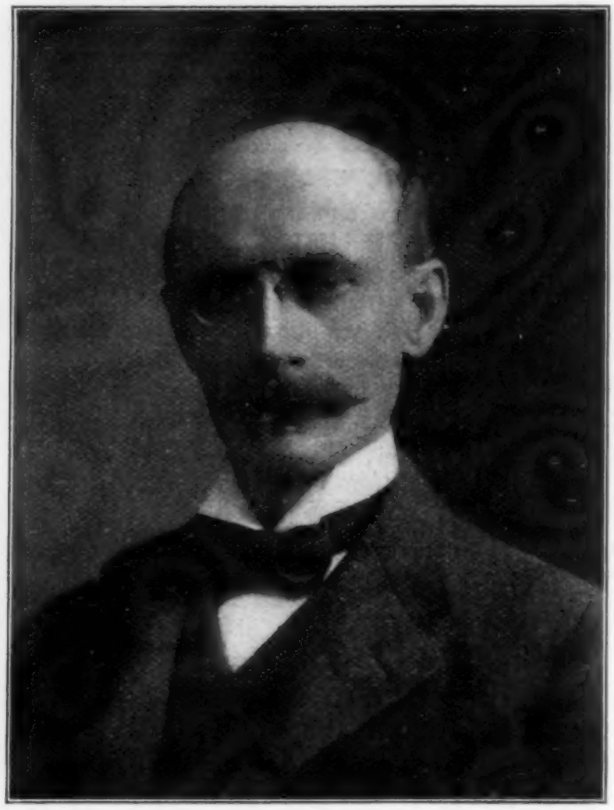
There are extensive improvements under way in the works at Reading, Pa. The Reading Iron Co. is erecting a large annex to its Scott works, which is noted for its cotton presses, and will, within a short time, complete the work at its other plants. The Olney street mill has been started after a short period of idleness and will be run regularly.

The Philadelphia & Reading Railway Co. expects to have its addition to its locomotive shops finished by Christmas and then will be able to turn out about 100 additional engines a year. The new boiler shops will be ready by the end of summer.

Launching of the Steamship Wm. E. Corey at South Chicago Yards.

The launch of the new lake freighter W. E. Corey, at the South Chicago yards of the American Ship Building Co., on last Saturday afternoon was of more than usual interest in the world of iron and steel, inasmuch as it is one of the four largest vessels on the Great Lakes, is named for the president of the United States Steel Corporation and her performances, like those of the new steamers Elbert H. Gary, H. C. Frick and Geo. W. Perkins, all sister ships and named for the executives of the Steel Corporation, will be watched with the utmost interest as they represent not only the largest carrying capacities on the lakes but also the latest types of ship construction. The steamer W. E. Corey was launched with more than usually impressive ceremonies. A special train carrying about 3,000 persons was run from Chicago to the shipyard and the great steamer took her initial plunge in the presence of as distinguished a group as has ever witnessed a lake launch. The launch was a success in every way. Miss Ada Corey christened this vessel in honor of her brother. The bottle was cleanly broken and drenched the sides of the vessel. Miss Corey was assisted by Miss A. C. Wigham, Mrs. W. E. Corey, Mrs. R. P. Bainbridge, Miss M. E. Gray, Miss E. Kuhn, Miss O. D. Munroe and Mrs. A. L. Dinkey.

WM. E. COREY,
PRESIDENT UNITED STATES STEEL CORPORATION.



JAMES GAYLEY,
FIRST VICE PRESIDENT, UNITED STATES STEEL CORPORATION.

In the absence of W. E. Corey, who is in Europe, the United States Steel Corporation was represented by James Gayley, vice-president, and the Pittsburg Steamship Co. was represented by Harry Coulby, its president and general manager. The ship building company was represented by W. L. Brown, Russel C. Wetmore and Robert Logan.

The Corey is the second of the quartet of giant steamers building for the Pittsburg Steamship Co. to be launched. She differs from the others only in cabin arrangement. The other three ships have no passenger accommodations whatever, having only one spare room to accommodate an occasional representative of the company. The passenger accommodations of the Corey, however, are quite complete, the state-rooms, five in number, being decorated in birch and enameled white, each stateroom having a private bath. There is also an observation room on the forecastle deck with unusually large windows. This room is decorated in Circassia walnut. The passenger accommodations, of course, include a private dining-room. The Corey is the flagship of the fleet.

The Corey and her sister ships offer further testimony to the originality of design now making the evolution of shipbuilding on the lakes. They are in a number of features unlike any ships built or building. In the first place they are the longest on the lakes, being 9 ft. longer than the Augustus B. Wolvin, or 569 ft. over all, 549 ft. keel, 56 ft. beam and 31 ft. deep. While the general principle of construction is the same as their predecessors in the absence of stanchions and stringers or any interference below deck with the unloading machines, the vessels are not of arch construction. Mr. Coulby after consulting a number of authorities concluded that an arch was primarily intended to support weight from the top and that a more rigid longitudinal construction could be secured by a straight girder across the deck. The construction of the cargo-hold also is a departure from anything at present on the lakes. The cargo hold descends in a straight line from the deck until within 9 ft. of the tank top when an inner hold or hopper is constructed 9 ft. from the skin of the ship and descends to the tank top. The top of the hopper is joined to the skin of the

ship by an incline construction, thus avoiding what would otherwise constitute a shelf and also preventing any lodgement of ore. The water bottom is 5 ft. 6 in. deep and is used for water ballast in conjunction with a 9 ft. space formed by the hopper and the sides of the ship. This construction gives enormous water ballast capacity, approximating 8,500 tons, making the steamer navigable in all sorts of weather and providing extraordinary rigidity in the longitudinal section. The hatches number thirty-four and are spaced 12 ft. centers, the hatch covers being operated by the Brosseau device enabling the hatches to be opened or closed from a central station. These ships are designed for a carrying capacity of 10,000 tons but when favored with deep draught their actual cargoes are likely to be considerably in excess of this figure as has already been proved by the initial trip of the E. H. Gary, when she carried 12,003 gross tons of iron ore from Escanaba to South Chicago. The engines are triple expansion with cylinders 24, 39 and 65 in. diameters by 42 in. stroke, supplied with steam

HARRY COULBY,
PRESIDENT AND GENERAL MANAGER, PITTSBURG STEAMSHIP CO.

from two Scotch boilers, 15 ft. 4½ in. diameter by 11 ft. 6 in. long, fitted with Ellis & Eaves induced draft and allowed 170 lb. pressure.

After the launch the party returned on the special train to Chicago where dinner was served at the Auditorium at seven o'clock in the evening. It has been customary of late to make prominent the social features of launches and in this respect no launch has approached the Corey in elegance and beauty. The dinner was held in the banquet room of the Auditorium which was especially decorated for the occasion. In the center a fountain of water played, made brilliant by the variously colored lights that beat upon it and made a thing of life by the fact that ferns and roses grew upon the banks of the fountain. The walls were decorated with American flags and the table was strewn with cut roses and carnations.

W. L. Brown, chairman of the board of directors of the American Ship Building Co., presided. He offered a toast to Mr. Corey which was drunk standing and then introduced James H. Hoyt as toastmaster, designating him as the Chauncey M. Depew of the West. Mr. Hoyt's parts as a toastmaster are well known. He likened the office of toastmaster to that of ring master in a circus—a person who does nothing but merely cracks the whip for others to perform. He regretted that Mr. Corey could not be present but thought it quite appropriate that Harry Coulby, the president of the Pittsburg Steamship Co. should take his place.

"I don't quite understand," said Mr. Coulby, "what part in the circus I am to take. We have had a prime day for the launch and I am quite sure that the Corey will do her work as well as he after whom she is named. I propose a toast to the one whom Mr. Corey has sent in his place and whom I am quite sure can manage the boat better than anyone else." Mr. Coulby then proposed a toast to Mrs. Corey.

Mr. Hoyt then stated that the man who built the first leviathan on the lakes was present; that the present ship was only 9 ft. longer than that one and that 9 ft. was not in fact a very great advance; but that it was indeed a bold thing to do to build a ship 560 ft. long when the ordinary vessel of the lakes was 100 or more feet shorter. He then introduced Capt. A. B. Wolvin, of Duluth.

Mr. Wolvin very modestly disclaimed that the idea of the large ship was original with him. He said that at all the early meetings in New York when the Steel Corporation was formed Mr. Corey persistently advocated the big ship as a unit in bringing about reduction in costs. He said that Mr. Corey continually urged the building of large steamers and he therefore proposed a toast to him as the primal mover.

W. D. Haynie traced the development of ship building in a most entertaining manner, saying that America had been discovered in cockle shells as scarcely no one nowadays would dare to venture in. The same development has taken place on the lakes from little beginnings until 1899 when the idea of the larger boat began to take root. He thought that man had pretty effectually mastered the elements now since the larger boats may ride a half dozen waves at one time and are not subject to the bending stresses even in the same degree that smaller vessels are. He declared himself to be proud of his pride in the good builders, the good boats and the good steel on the lakes and proposed a toast to both the Gary and Corey. "May they each outlive the other," said he.

"Those that think the American Ship Building Co. is a trust," said Mr. Hoyt, "are very much mistaken. There are others. Our hated rival is present tonight, and on behalf of the dear public I take pleasure in introducing A. C. Pessano of the Great Lakes Engineering Works, of Detroit."

Mr. Pessano disclaimed the hated rival idea, saying that the Great Lakes honored and admired American Ship; that they were indeed friendly rivals and that while the Great Lakes hoped to exceed American Ship it would do well indeed if it equaled it. Mr. Pessano frankly stated that he thought the Corey to be the finest specimen of work turned out at the lake yards as yet. As to his own yard, it was new, but it had the services of men who in years gone by had built excellent ships at other yards, incidentally paying a compliment to W. I. Babcock, of New York.

Mr. Hoyt then called upon G. A. Tomlinson who has had ships built at both yards to discuss the subject from the standpoint of the shipowner.

"It is a very pleasant thing," said Mr. Tomlinson, "to be introduced by the Chesterfield of the Western Bar. It is true that I am having ships built by both companies, at least that is my impression, but there seems to be a disposition on the part of both yards not to deliver them. Both companies are past masters in the art of jollying their clients, giving them taffy instead of ships." James C. Wallace, president of the American Ship Building Co., was not present and Mr. Tomlinson proposed a toast to him. "We have found the American Ship Building Co. hard to trade with," said he, "but standing

by their trade after they have made it." Mr. Hoyt explained that delays were sometimes unavoidable, being caused by delay in getting material, in which view he was corroborated by Mr. Pessano.

Homer J. Carr was introduced by Mr. Hoyt as the mouthpiece of the public press in all marine matters. Mr. Carr thanked the company for the invitation which had been extended to the Press Club of Chicago to witness the launch and he said that the people of Chicago did not really know much about ships and that the launch of the Corey was an object lesson to them. He related that in 1888 when he established the Lake Marine News service the steamer E. P. Wilbur came to Chicago on her maiden trip. She was the largest ship that had ever reached the port but today she has even lost her name and would hardly be a tug to the Corey.

Mr. Hoyt took occasion to refer to the work which the Marine Review is doing in endeavoring to consolidate the marine interests of the country for the upbuilding of American shipping and shipbuilding, saying that it was quite as representative on salt water as on fresh water. He then introduced John A. Penton, president of the company.

Mr. Penton said that it was a sad thought that while on fresh water shipping had flourished under favoring laws and had been able to establish the lowest known rate of transportation on earth, the American marine on the high seas by reason of the absence of these laws had practically ceased to exist and that in a very short time the American flag would not be seen at all on the oceans of the world. He stated that there was tremendous significance in this when the future is concerned. He declared that the government was spending anywhere from $200,000,000 to $500,000,000 on the Panama canal for a purely sentimental reason. "This ditch is ostensibly dug for the convenience of American ships, whereas there are no American ships. The sum of $100,000,000 is spent annually on the navy and $80,000,000 on the army. All that is needed to give shipping a start in life is about $4,000,000 per annum for a few years, a sum paltry in contrast with the amounts just named, and no one seems to understand why it is not given," he said. "The Panama Commission as this very moment has a representative abroad to buy ships to carry American supplies and even the members of the executive family of the United States to Panama. The ships that carry American supplies to Panama have foreign papers, foreign officers and foreign flags, while at the selfsame moment American bottoms are rotting in our harbors."

"That," said Mr. Hoyt, jumping to his feet when Mr. Penton had finished, "should be the keynote of our campaign. Over $200,000,000 of our money was earned by foreign ships last year. Why is it that all industries are protected except this one of shipbuilding? The American Ship Building Co. owns two ships, the Minnetonka and the Minnewaska, that are now lying idle on the coast owing to the higher cost of material that entered into their construction caused by reason of our fiscal policy. Why should the great government of the United States go abroad for its ships? Why should free trade prevail for it and protection for its citizens? Why should I be compelled to pay 40 per cent duty under the Dingley tariff and the government divest itself of this responsibility? Gentlemen, this a burning question; you can't have free trade for the government and protection for the individual. Who is the government of the United States? Is it not the people of the United States? I think protection is a good thing and am willing to pay the duty, but the government too should be bound by the same laws that bind its citizens. One vital interest alone is left out of protection, left to languish, to dwindle and to become extinct. We formerly carried 90 per cent of our products in our own ships. Now we carry less than nine per cent. Why, even 5 per cent of the $200,000,000 that we annually pay to foreign ships if bestowed upon our American ships would make shipping blossom like the rose. We ought to, all of us, remember that this condition exists and in all

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INTERIOR VIEW OF CARGO HOLD OF STEAMER W. E. COREY.

such gatherings as this we should do all that we can to remedy it."

Mr. Hoyt then said that the list of settled speakers was exhausted but that if anyone present desired to talk he had the privilege of rising to his feet. Mr. Pessano took occasion to toast W. L. Brown for his patience and diplomacy. Mr. Brown in replying hoped that there would be future launches such as the Corey and that the occasion would be graced by such company. Mr. Coulby by request toasted the toastmaster, and A. C. Dinkey, the president of the Carnegie Steel Co., was called upon. Mr. Dinkey stated that the poor steel worker was the butt of the contractor and was always blamed for delays which were, however, unavoidable. He proposed a toast to the American Ship Building Co.

Edward M. Hagar was then asked to take up the subject of waste material. He said that the Corey would carry 10,500 tons of ore of which 6,000 tons would become pig metal and the 4,500 tons would be waste, upon which fuel and freight would have been paid. He added, however, that latterly a process had been discovered to put the waste to use and that 3,000 tons of it could now go to make good Portland cement, adding that sometimes there was actually greater profit in the so-called waste than in the pig metal itself.

"If you will build your furnaces where we are building ours," said Mr. Wolvin, "there would be no waste," referring to the Zenith Iron Co. of Duluth. The banquet then came to an end.

Those present were: Mr. and Mrs. E. J. Buffington, Mr. and Mrs. T. W. Robinson, Mr. and Mrs. T. J. Hyman, Mr. and Mrs. Edward M. Hagar, Mr. and Mrs. K. K. Knapp, Mr. and Mrs. George Baker, Mr. and Mrs. W. D. Haynie, Mr. and Mrs. R. W. Campbell, Mr. and Mrs. H. W. Sutcliffe, Mr. and Mrs. George L. Davidson, Mr. and Mrs. Mathew McClung, Mr. and Mrs. J. G. Bergquist, Mr. and Mrs. E. B. Clark, Mr. and Mrs. Homer J. Carr, Mr. and Mrs. Frank Baackes, Mr and Mrs. A. F. Banks, Mr. and Mrs. W. A. Gardner, Mr. and Mrs. John Spry, Mr. and Mrs. Dennis Sullivan, Mr. and Mrs. C. R. Webster, Mr. and Mrs. W. D. Washburn, Mrs. Hoyt, C. P. Wheeler, C. T. Boynton, W. L. Brown, A. G. Smith, Mr. and Mrs. W. B. Kelly, Mr. C. E. Mosley, A. W. Thompson, of Chicago; D. M. Clemson, D. G. Kerr, Thomas Morrison, Sam Benner, John Neal, Miss Ada Corey, Mr. and Mrs. R. P. Bainbridge, Miss A. C. Whigham, Miss M. E. Gray, Miss E. Kuhn, Miss O. D. Munroe, Mr. and Mrs. A. L. Dinkey, G. K. Preston, W. G. Clyde, of Pittsburg; James H. Hoyt, Harry Coulby, Robert Logan, R. C. Wetmore, Gustav Von den Steinen, E. M. Richardson, Tom Scott, J. M. Mulrooney and John A. Penton, of Cleveland; James Gayley, H. W. Marsh, W. I. Babcock, Mrs. W. E. Corey, of New York; A. B. Wolvin, G. A. Tomlinson, of Duluth; Ed. Smith, Wm. Knight, of Buffalo; James A. Davidson, Bay City; Antonio C. Pessano, Detroit; and J. R. Andrews, Bath, Me.

On Sunday afternoon the launching party, consisting of Miss Ada Corey, Miss Whigham, Miss Gray, Miss Kuhn, Miss Munroe, Mrs. Bainbridge, Mrs. W. E. Corey, Mrs. A. L. Dinkey, accompanied by Mr. Harry Coulby, Mr. Robert Logan and Mr. Russel Wetmore, left for West Superior, where the steamer George W. Perkins, sistership to the Corey, was launched on Monday afternoon. Miss Powell, of Duluth, the daughter of L. W. Powell, vice president of the Oliver Iron Mining Co., christened the Perkins.

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HULL OF NEW STEAMER W. E. COREY AFTER THE LAUNCH.

The Pittsburg Steamship Co's. Fleet.

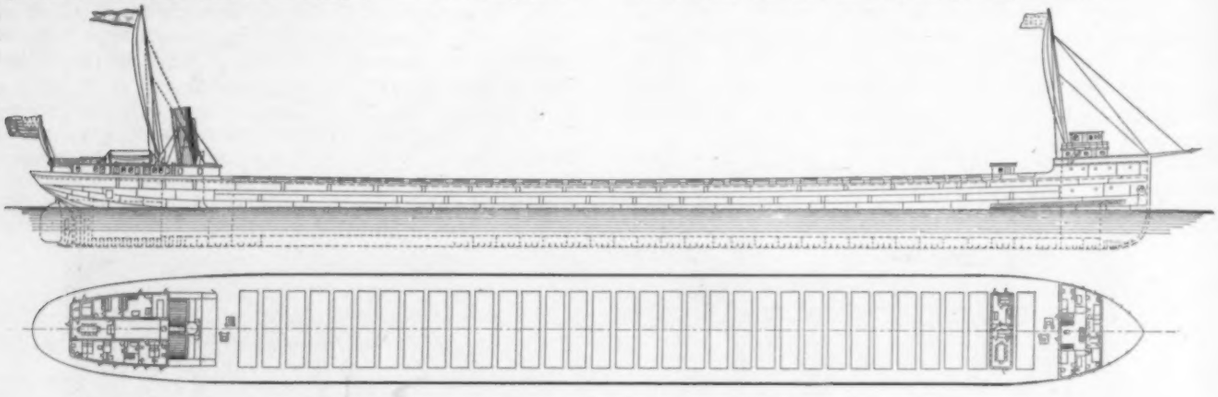
The Pittsburg Steamship Co., one of the subsidary companies of the United States Steel Corporation is the leading factor in the lake trade, has the greatest number of boats and handles the largest tonnage on the lakes. The United States Steel Corporation was formed in February, 1901, and the fleets taken into the Pittsburg Steamship Co., which already had eleven steamers and two barges were: Bessemer Steamship Co., 25 steamers and 31 barges, a total of 56 ships; Minnesota Steamship Co., 12 steamers and 10 barges,

a total of 22 ships; American Steamship Co., 12 steamers; Menominee Steamship Co., five steamers and the Mutual Steamship Co., four steamers, a grand total of 112 ships, of which 69 were steamers and 43 were barges.

In 1902 the company lost the whaleback steamer Thos. Wilson and whaleback barge 129 and in 1903, the Steel Corporation, through the purchase of the Union Steel Co., acquired the steamers Shaw and Murphy. For the purpose of comparison, the Pittsburg Steamship Co., fleet, in 1903 was in commission an average of 210 days and each boat made on an average of 18 trips. In 1904, which was cut short on account of the Masters & Pilots strike, the fleet was in commission an average of 171 days and made on an average 16 trips. The tonnage carried in 1903 was 9,722,059, or an average ore cargo of 4,678 gross tons for each ship in the fleet as compared in 1904 with a tonnage of 9,183,678 gross tons or an average cargo per ship of 4,763 gross tons.

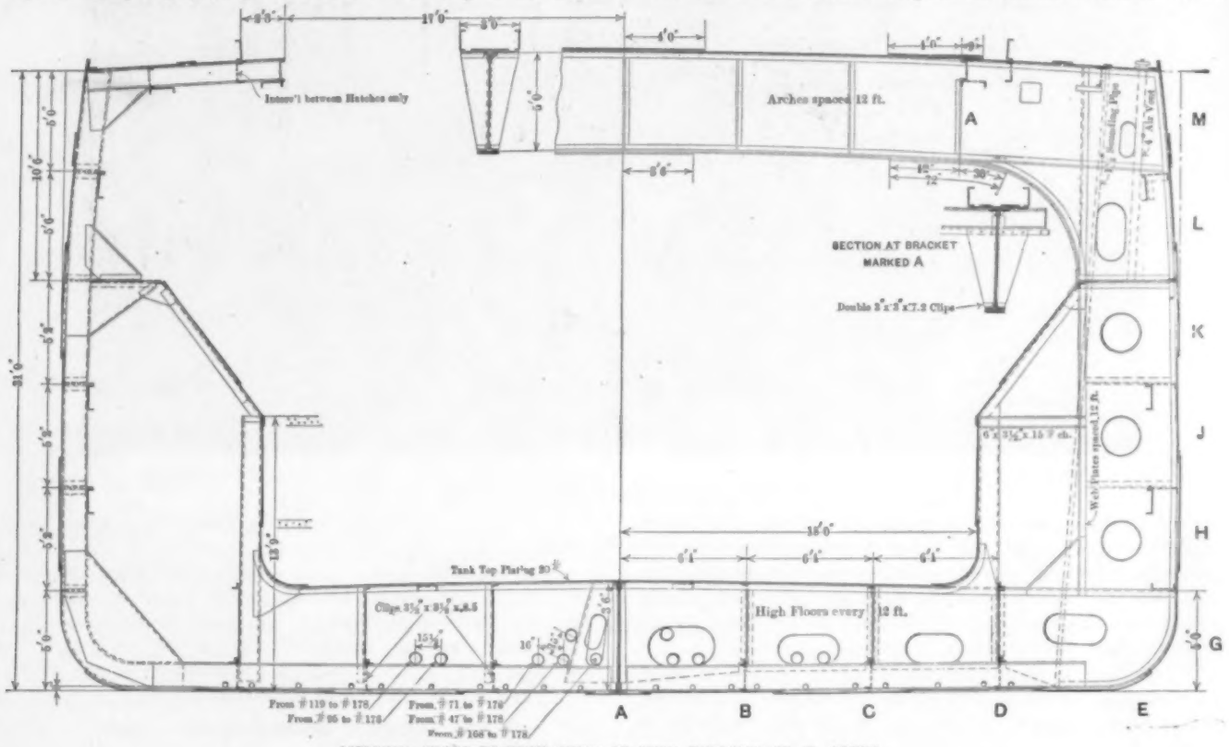
The largest cargo for the fleet for the season of 1903 was carried by the steamer Edenborn, 8,720 gross tons, from Escanaba to South Chicago. The Edenborn also made the fleet record for single cargo for 1904, carrying 8,572 gross tons between the same ports.

In 1901 D. M. Clemson, of Pittsburg, was elected president and A. B. Wolvin, of Duluth, vice president and general manager. On January 1, 1904, both these gentlemen resigned their positions and H. Coulby, of Cleveland, was elected president and general manager and L. W. Powell, of Duluth, vice president. The other officers of the company are: James H. Hoyt, secretary and counsel; Charles E. Scheide, treasurer; A. F. Harvey, assistant general manager; E. C. Collins, traffic manager and W. M. Jeffrey, auditor.



PROFILE AND DECK PLAN OF NEW STEAMER W. E. COREY.

In 1904, the average cargo carried by the fleet was 4,763 tons. On account of the rapid progress made in the adoption of automatic unloading machinery, it was found that the small whalebacks, on account of their small carrying capacity and inconvenience of their hatches, were unfitted for loading and unloading at the modern equipped docks. The Finance Committee of the Steel Corporation therefore decided to dispose of the smaller boats of the fleet, which was accomplished by the sale of sixteen of the small whalebacks, and to construct four modern steamers. Contract was given to the American Ship Building Co. for four steamers, 569 ft. over all, 56 ft. beam and 31 ft. deep. These boats were especially adapted to meet the requirements of the automatic unloading machinery. The first of these boats, the Elbert H. Gary, went into commission about June 1st and carried the



MIDSHIP CROSS-SECTION VIEW OF NEW STEAMER W. E. COREY.

record-breaking cargo, from Escanaba to South Chicago, of 12,003 gross tons. This boat has also taken a record-breaking cargo from Lake Superior, having brought through the canal and delivered at South Chicago a cargo of 10,629 gross tons.

By the sale of the sixteen small boats, and the acquisition of the four modern steamers, the average cargo of the fleet has been increased from 4,763 to 5,297 tons.

A striking illustration of the evolution in the lake trade commerce is a comparison of the steamer Manola, that was built by the Minnesota Steamship Co. in 1890. In that year this steamer broke all records having carried a total of 68,000 tons. This boat was equipped with a triple expansion engine, 24 in. x 38 in. x 61 in., and 42 in. stroke, and two Scotch boilers. Her dimensions are 292 ft. keel, 40 ft. beam, 24 ft. 6 in. deep. The four new boats that are now being constructed by the Steamship Company have practically the same size engine and will do their work on practically the same fuel consumption, and in a full season's work, each one of these steamers will carry 220,000 tons.

The Eastern Bar Iron Association, at its recent meeting in New York, in the belief that it could not stimulate the buying movement by lowering its quotations, decided to reaffirm existing prices. Hereafter the association's monthly meetings will be held at the third Wednesday of every month, instead of the third Thursday as heretofore; the exception being that when the first day of the month was Thursday, the fourth Thursday was set for the day of meeting.

Edward A. Donnelly and Chas. A. Geatty have been appointed receivers by consent for the metal and machinery business conducted by John A. Schulz and Charles Rohleder as Schulz & Rohleder, 1015 East Fayette street, Baltimore. The members of the firm admitted the bill, charging insolvency and consented to receivership.

Deere & Co., Davenport, Ia., have begun the work of making additions to their plant, which will double the capacity and increase their facilities. Other changes and improvements are contemplated.

DEATHS OF H. H. WRIGHT AND J. H. GIBSON.

Harry H. Wright, of Oak Hill, Ill., and James H. Gibson, of Chicago Heights, Ill., were killed by the railroad wreck on the Lake Shore & Michigan Southern railroad last week. Both were prominent in the machinery world and some biographical data regarding Mr. Gibson will be found in the article on pages 26-28 of this issue of *The Iron Trade Review*. The photographs were received too late for insertion in that article but are reproduced on this page. Harry Hobart Wright, president and general manager of the Featherstone Foundry & Machine Co., died in Cleveland, June 22, from injuries received in the wreck. He was 32 years of age and leaves a widow and one child. Mr. Wright was in every sense of the work a self-made man. His first position in Chicago was that of office boy in 1887. Later he became connected with the Galena-Signal Oil Co., and in 1894 was stenographer with C. M. Hewitt, dealer in railway supplies. In 1898 he was made assistant to the president of the Hewitt Mfg. Co., and later became vice president of the company. His connection with the Featherstone Foundry & Machine Co. dates back to 1900. In this year the business of John Featherstone & Sons, which was being wound up by the courts, was purchased by the interests connected with the Hewitt Mfg. Co. and the firm reorganized. Mr. Wright was made secretary, the following year succeeding to the position of general manager. In 1904 he was elected president of the company. Mr. Wright was greatly beloved by his associates, who admired him for his enthusiastic disposition and calm and even temperament.

H. H. WRIGHT.

JAMES H. GIBSON.

KILLED IN THE RAILROAD WRECK AT MENTOR, O.

The Lake Shore & Michigan Southern Railroad has made plans for the rapid extension and use of automatic signals throughout the main line from Buffalo to Chicago, a distance of about 525 miles. Up to about two years ago there was no automatic signaling on the Lake Shore, except isolated sections scattered along the main line at obscure points. The Hall electro-gas semaphore will be put in from Erie to Nottingham, thus establishing the Hall system from Buffalo to Cleveland. The Union Switch & Signal Co. has the contract for the automatic signaling from Nottingham to Chicago.

PERSONAL.

Henry F. Brassert, for the past five years superintendent of blast furnaces of the Edgar Thomson steel works of the Carnegie Steel Co., Pittsburg, has resigned.

George S. Garritt, assistant general manager of sales of the National Tube Co., Pittsburg, has been appointed manager of sales of the San Francisco office of this company, succeeding C. M. Woods, resigned.

Capt. John Pengilly, up to two years ago manager of the Chicago & Minnesota Ore Co., owner of the Chandler mine, Minnesota, is very seriously ill as the result of exposure a few days ago on the north shore of Lake Superior. When Capt. Pengilly retired from the management of the Chandler mine on account of ill health he went to a farm owned by him in the city of Northfield, Minn., and has since lived there. A few days ago he went to the international boundary to make some examination of properties in the Atikokan region, for Mackenzie, Mann & Co., and the Atikokan Iron Co., and while there Pengilly and the two guides with him lost their way in the woods and he was subjected, without shelter, to a tremenous rainfall for more than 24 hours. This brought on a severe attack of pneumonia, and he was cared for as best he could be in the little section point of Mariaggi, Ontario. He was mine captain at the Chandler under Manager Jos. Sellwood and when the latter left the property became its chief. When Don H. Bacon left the management of the Minnesota Iron Co., Pengilly was put in charge of the company's mines at Soudan and retained both this position and the Chandler till his retirement. He is an experienced and skillful mining manager of great versatility and ability and is widely known in iron circles.

W. O. Moody of the American Rolling Mill Corporation, 437 Stock Exchange Building, Chicago, has resigned as general manager and director of that company, owing to ill health. He has left for the Pacific Coast, where he intends to stay for an extended time. L. Bernstein, formerly purchasing agent of the company, succeeds Mr. Moody.

Frank C. Randall has resigned as vice president and general manager of the National Electric Co., Milwaukee, to become manager for the district of New York, with headquarters in New York City, for the Allis-Chalmers Co.

George Gunrey, business agent for the Iron Molders' International Union, at Indianapolis, will retire as agent of Union No. 56 this fall.

The Detroit Stove Works, Detroit, Mich., has adjusted its trouble with the mounters at the plant and the men have returned to work.

There will be held at the Zoological Garden on Thursday evening, June 29, the regular quarterly meeting and dinner of the Cincinnati Metal Trades Association. Final action on the merger proposition with the National Association will probably be taken at this meeting.

The molders and manufacturers of the Youngstown, O., district have at last reached an agreement on the wage scale for the ensuing year. Under the terms of the new agreement the molders will receive a minimum of $3 per day and the coremakers $2.75. The wages are the same as they received during the year 1903-04. By this new agreement the molders receive an advance of 15 cents and the coremakers 10 cents.

The Buffalo & Rochester Co., DuBois, Pa., will erect 500 coke ovens at Ernest, near Indiana, Pa. The coke from these ovens will be shipped to the company's furnaces at DuBois and Falls Creek, Pa., respectively.

DEATH OF GEORGE E. MACKLIN

General Manager of the Pressed Steel Car Co.—Mrs Peter White Passes Away.

George E. Macklin, general manager of the Pressed Steel Car Co., Pittsburg, died at the St. Joseph Hospital, Philadelphia, Pa., on Monday, June 26. Deceased was born at McVeytown, near Harrisburg, Pa., 42 years ago. In early life he showed a decided taste for higher education and graduated from the Rensselaer Polytechnic Institute, Troy, N. Y., with high honors. He first secured employment with the Colorado Fuel & Iron Co., and later accepted a position with the Simplex Railway Appliance Co. In 1899 he became associated with the Pressed Steel Car Co. and was soon placed in charge of sales at New York. He later returned to Pittsburg and was appointed general manager of the company's works and was also elected a member of the board of directors. He is survived by his wife and one child.

Mrs. Peter White, wife of the pioneer of the Lake Superior ore ranges and president of the Great Lakes Sault Canal Semi-Continental Association, died at Marquette June 26. She had been married 48 years and was a noble woman.

Franklin Hayes Davis, 35 years old, died June 23 at Great Barrington, Mass., where he was spending his vacation. He was superintendent of the Midvale Steel Co., of Philadelphia, and resided at No. 269 West Rittenhouse street, Germantown. Nearly two weeks ago he went to Great Barrington for a vacation. Mr. Davis was born in Albany. He was a graduate of the Massachusetts Institute of Technology. After graduation he entered the employ of the Midvale Steel Co., which manufactures armor plate. He was steadily advanced in the business until about five years ago he became superintendent of the factory. He leaves a wife and one child.

NOMINAL SALE OF PLANT.

The Allegheny Steel & Iron Co., Pittsburg, operating sheet mills and an open-hearth plant at Avenue, Pa., was sold to the Allegheny Steel Co. on June 22, this company being organized under the laws of New Jersey with a nominal capital of $5,000. This sale was promulgated to eliminate some of the smaller stockholders, and practically no change has occurred in the organization of the company. Capt. Alfred Hicks has been elected president; H. E. Sheldon, treasurer, and R. D. Campbell, secretary. The company has plans under consideration for large extensions to its present plant, but the details have not yet been decided upon.

Roger, Brown & Co. have moved their Cleveland office from the Perry-Payne building to 1312-1318 Rockefeller building.

The Bethlehem Steel Co. is at work on three crank shafts which will weigh 86,600 lb. each when finished. They are turned out of solid steel ingots 25 x 4 x 4 ft., and are intended for three Snow gas engines, which are to drive 4,000 kilowatts Crocker-Wheeler alternators, the largest gas engine driven generators ever built, ordered by the California Gas & Electric Corporation.

The North & Judd Mfg. Co., New Britain, Conn., has closed its foundry until further notice. Vice President H. C. Noble stated this move was made on account of an overstock of goods, and that the shut down for this reason at this time of the year is an annual event.

A recent item in connection with the Indepednent Pneumatic Tool Co., acquiring the Aurora, Ill. plant, stated the latter works had a capacity of 100 pneumatic tools a month. This should have been 1,000 tools per month.

ADDITIONAL STATISTICS

Concerning Iron and Steel Production in the United States.

The following additional statistical information is taken from the annual report of the American Iron and Steel Association:

TOTAL PRODUCTION OF PIG IRON.

Twenty States made pig iron in 1904, against 22 in 1903. The total production of pig iron in 1904 was 16,497,033 gross tons, against 18,009,252 tons in 1903. The following table gives the half-yearly production of pig iron in the last six years.

Periods.	1899. Gross tons.	1900. Gross tons.	1901. Gross tons.	1902. Gross tons.	1903. Gross tons.	1904. Gross tons.
First half....	6,289,167	7,642,569	7,674,613	8,808,574	9,707,367	8,173,438
Second half.	7,331,536	6,146,673	8,203,741	9,012,733	8,301,885	8,323,595
Total ...	13,620,703	13,789,242	15,878,354	17,821,307	18,009,252	16,497,033

The following table gives the production of pig iron by States in 1903 and 1904, in the order of their prominence in 1903.

States—Gross tons.	1903.	1904.	States—Gross tons.	1903.	1904.
Pennsylvania	8,211,500	7,644,321	Michigan	244,709	233,225
Ohio	3,287,434	2,977,929	New Jersey	211,667	262,294
Illinois	1,692,375	1,655,991	West Virginia	199,013	270,945
Alabama	1,561,398	1,453,513	Kentucky	102,441	37,106
New York	552,917	605,709	North Carolina, Georgia	75,602	70,156
Virginia	544,034	310,526	Connecticut	14,501	8,922
Tennessee	418,368	302,096	Texas	11,653	5,530
Maryland	324,570	293,441	Massachusetts	3,265	3,149
Wisconsin, Minnesota, Missouri	283,516	210,404			
Colorado, Washington	270,289	151,776			
			Total	18,009,252	16,497,033

PRODUCTION OF BESSEMER PIG IRON.

The production of Bessemer and low-phosphorus pig iron in 1904 amounted to 9,098,659 tons, against 9,989,908 tons in 1903. The following table gives the production of Bessemer pig iron by States in each year from 1899 to 1904. Bessemer pig iron made with charcoal is included. Low-phosphorus pig iron is included for 1901, 1902, 1903, and 1904, but not for 1899 and 1900. The production of low-phosphorus pig iron alone is given on page 41.

States—Gross tons.	1899.	1900.	1901.	1902.	1903.	1904.
Pennsylvania	4,473,493	4,242,397	4,885,877	5,130,022	5,213,143	4,511,999
Ohio	1,852,965	1,898,663	2,637,091	2,927,605	2,422,676	2,138,442
Illinois	1,330,169	1,178,241	1,394,430	1,495,298	1,386,683	1,424,030
Maryland	210,670	260,688	297,149	296,971	321,784	292,642
West Virginia, North Carolina	187,858	169,802	166,597	182,937	198,688	267,505
Colorado	96,364	118,146	147,216	201,580	176,116	112,318
Kentucky, Tennessee, Wisconsin, Michigan, Minnesota	36,275	34,215	39,941	92,074	111,340	76,031
New Jersey, New York, Virginia, Alabama	13,984	40,300	28,492	66,681	3,299	250,483
Total	8,202,778	7,943,452	9,596,793	10,393,168	9,989,908	9,098,659

PRODUCTION OF BESSEMER STEEL.

The total production of Bessemer steel ingots and castings in the United States in 1904 was 7,859,140 tons, against 8,592,829 tons in 1903, a decrease of 733,689 tons, or 8.5 percent. The production in 1903 was 545,534 tons less than in 1902, in which year the production was the largest in our history.

The following table gives the production of Bessemer steel ingots and castings in the last five years by States. Of the production in 1904 16,051 tons were direct castings, against a similar production of 18,099 tons in 1903 and 12,548 tons in 1902.

States—Gross tons.	1900.	1901.	1902.	1903.	1904.
Pennsylvania	3,488,731	4,293,439	4,209,326	3,909,436	3,464,650
Ohio	1,388,124	2,154,846	2,538,802	2,330,134	2,050,118
Illinois	1,115,571	1,324,217	1,443,614	1,366,569	1,257,190
Other States	692,344	940,800	956,621	986,090	1,087,185
Total	6,684,770	8,713,302	9,138,363	8,592,829	7,859,140

There were no Clapp-Griffiths works in operation in 1904 and only 2 Robert-Bessemer plants were active. Eleven Tropenas plants were at work, as compared with 8 in 1903. In addition 2 plants made steel by the Bookwalter process and 5 plants in special converters. With the exception of the Clapp-Griffiths plant all these works make a specialty of steel castings.

The following table gives separately the production of Bessemer steel ingots and castings from 1898 to 1904, all made by the acid process. Prior to 1898 Bessemer castings were included with ingots. Basic Bessemer steel has not been made in this country since 1897, when about 69,000 tons of ingots were produced at Troy, N. Y., by the Troy Steel Co.

Years—Gross tons.	Ingots.	Castings.	Total.
1898	6,605,478	3,539	6,609,017
1899	7,582,415	3,939	7,586,354
1900	6,678,303	6,467	6,684,770
1901	8,706,538	6,764	8,713,302
1902	9,125,815	12,548	9,138,363
1903	8,574,730	18,099	8,592,829
1904	7,843,089	16,051	7,859,140

PRODUCTION OF PIG IRON BY GRADES.

The following table gives the total production of pig iron in the United States in 1900, 1901, 1902, 1903, and 1904, by grades. Prior to 1900 the production of all grades was not ascertained.

Grades—Gross tons.	1900.	1901.	1902.	1903.	1904.
Bess. and low-phos.	7,979,327	9,596,793	10,393,168	9,989,908	9,098,659
Basic (mineral fuel)	1,072,376	1,448,850	2,038,590	2,040,726	2,483,104
Forge pig iron	793,092	639,454	833,093	763,016	550,836
Fdy. and high sil.	3,376,445	3,548,718	3,851,276	4,409,023	3,837,229
Malleable Bessemer	173,413	256,532	311,456	473,781	263,529
White, mottled, etc.	129,909	87,964	172,085	120,137	53,284
Spiegeleisen	207,505	231,822	168,408	156,700	162,370
Ferro-manganese	48,472	59,639	44,573	35,961	58,022
Direct castings	8,703	8,582	8,656	.....	.....
Total	13,789,242	15,878,354	17,821,307	18,009,252	16,497,033

NEW BESSEMER STEEL CASTING PLANTS.

No new standard Bessemer plants were built in 1904. Nor was work commenced on any new standard Bessemer plants during that year. A number of works to make steel by the Tropenas process were, however, completed and put in operation in 1904. Also one plant to make steel by the Bookwalter process and one plant to make steel in a special Bessemer converter.

The new Tropenas plants which were built and put in operation in 1904 were as follows: Watertown Arsenal, Watertown, Mass.; one 2-gross-ton converter; first steel made March 25, 1904. Massachusetts Steel Casting Co., Everett, Mass.; one 2-gross-ton converter; first steel made December 29, 1904. Providence Steel Casting Co., Providence, R. I.; one 2-gross-ton converter; first steel made in May, 1904; foundations are now ready for an additional 2-gross-ton converter, which may be completed in 1905. United Statev Navy Yard, Brooklyn, N. Y.; one 2-gross-ton converter; first steel made December 19, 1904. Southern Steel Works, Chattanooga, Tenn.; one 2-gross-ton converter; first steel made December 1, 1904. In addition to the above Isaac G. Johnson & Co., Incorporated, of Spuyten Duyvil, N. Y., added one 2-gross-

ton Tropenas converter to its plant in the summer of 1904, and it works are now equipped with two 2-gross-ton converters.

The new plant to make steel by the Bookwalter process was erected by the Brylgon Steel Casting Co., at New Castle, Del. It is equipped with two 2-gross-ton converters. Steel was first made on September 22, 1904. The plant to make steel in a special converter was built by the Milwaukee Steel Foundry Co., at Milwaukee, Wis. Steel was first made on March 15, 1904. The converter has a capacity of one ton at each blow.

All the plants enumerated above make a specialty of steel castings, although occasionally a few ingots are made. Some of these ingots are used in the production of forgings.

PRODUCTION OF OPEN-HEARTH STEEL.

The total production of open-hearth steel ingots and direct castings in the United States in 1904 was 5,908,166 gross tons, against 5,829,911 tons in 1903, an increase of 78,255 tons, or over 1.3 percent. While this increase was not so great as had been looked for, it should be remembered that any increase at all in a year which witnessed a general reaction in business, and especially in the iron trade, marks an important advance in the open-hearth branch of our iron and steel industries.

The following table gives the production of open-hearth steel ingots and castings by States since 1899, in gross tons:

States—Gross tons.	1899.	1900.	1901.	1902.	1903.	1904.
New England....	57,124	74,522	170,876	179,923	169,209	195,901
N. Y. and N. J..	61,461	67,361	82,985	92,763	104,598	165,986
Pennsylvania.....	2,393,811	2,699,502	3,594,763	4,375,364	4,442,730	4,306,498
Ohio.....	117,458	130,191	184,943	278,854	369,349	480,906
Illinois.....	246,183	285,551	398,522	435,461	422,919	358,215
Other States.....	71,279	141,008	224,220	325,364	321,106	400,660
Total.....	2,947,316	3,398,135	4,656,309	5,687,729	5,829,911	5,908,166

The open-hearth steel made in 1904, including both ingots and castings, was produced by 116 works in 16 States—Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Maryland, Tennessee, Alabama, Ohio, Indiana, Illinois, Wisconsin, Missouri, Colorado, and California. One hundred and eleven works in 17 States made open-hearth steel in 1903, and 98 works in 16 States made open-hearth steel in 1902.

The production of open-hearth steel ingots in 1904, excluding castings, the latter to be noticed hereafter, amounted to 5,605,332 tons, against 5,429,563 tons in 1903, an increase of 175,769 tons.

PRODUCTION OF BASIC AND ACID OPEN-HEARTH STEEL INGOTS AND CASTINGS.

In the following table is given the production by States of both acid and basic open-hearth steel ingots and castings in 1904. The production of open-hearth steel by the basic and acid processes was first separately ascertained by us for the year 1896.

States—Gross tons.	Basic open-hearth steel.	Acid open-hearth steel.	Total. Gross tons.
New England.....	147,390	48,511	195,901
New York and New Jersey	139,791	26,195	165,986
Pennsylvania	3,667,673	638,825	4,306,498
Ohio	427,948	52,958	480,906
Illinois.....	341,073	17,142	358,215
Other States.....	382,492	18,168	400,660
Total for 1904.....	5,106,367	801,799	5,908,166
Total for 1903.....	4,734,913	1,094,998	5,829,911
Total for 1902.....	4,496,533	1,191,196	5,687,729
Total for 1901.....	3,618,993	1,037,316	4,656,309
Total for 1900.....	2,545,091	853,044	3,398,135
Total for 1899.....	2,080,426	866,890	2,947,316
Total for 1898.....	1,569,412	660,880	2,230,292
Total for 1897.....	1,056,043	552,628	1,608,671
Total for 1896.....	776,256	522,444	1,298,700

In 1903 4,734,913 tons of open-hearth steel were made by the basic process and 1,094,998 tons were made by the acid process, while in 1904 the production by the basic process amounted to 5,106,367 tons and by the acid process to 801,799 tons. A loss in production by the acid process in 1904 of 293,199 tons is indicated by these figures, but they also show a gain of 371,454 tons in the production of basic steel. This gain is less than the gain of 442,378 tons in 1904 in the production of basic pig iron. In 1902 there were made 4,496,533 tons of open-hearth steel by the basic process and 1,191,196 tons by the acid process. These figures show a steady decline in the production of acid steel.

PRODUCTION OF BASIC PIG IRON FROM 1896 TO 1904.

The production of basic pig iron since 1896 with mineral fuel has been as follows, in gross tons. The production of basic pig iron was first separately ascertained for 1896. Basic charcoal pig iron is not included in any of the figures given.

Years.	Gross tons.	Years.	Gross tons.	Years.	Gross tons.
1896.....	336,403	1899.....	985,033	1902.....	2,038,590
1897.....	556,391	1900.....	1,072,376	1903.....	2,040,726
1898.....	785,444	1901.....	1,448,850	1904.....	2,483,104

PRODUCTION OF SPIEGELEISEN, FERRO-MANGANESE AND FERRO-PHOSPHORUS FROM 1872 TO 1904.

The following table gives the production of spiegeleisen, ferro-manganese, and ferro-phosphorus since 1872. The total for 1902 includes 47 tons of ferro-phosphorus made in Alabama, and the total for 1904 includes 946 tons of ferro-phosphorus made in Tennessee. Ferro-phosphorus was not reported for other years.

Years.	Gross tons.	Years.	Gross tons.	Years.	Gross tons.
1872.....	4,072	1883.....	21,941	1894.....	120,180
1873.....	3,930	1884.....	30,262	1895.....	171,724
1874.....	4,070	1885.....	30,956	1896.....	131,940
1875.....	6,993	1886.....	42,841	1897.....	173,695
1876.....	5,907	1887.....	42,498	1898.....	213,769
1877.....	7,897	1888.....	48,901	1899.....	219,768
1878.....	9,530	1889.....	76,628	1900.....	255,977
1879.....	12,438	1890.....	133,180	1901.....	291,461
1880.....	17,503	1891.....	127,766	1902.....	212,981
1881.....	18,827	1892.....	179,131	1903.....	192,661
1882.....	19,610	1893.....	81,118	1904.....	220,392

The Couple-Gear Freight Wheel Co., Grand Rapids, Mich., has been incorporated with a capitalization of $500,000. This enterprise will manufacture as licensees the couple-gear or gyroscope type of wheels for electric trucks and delivery wagons, under the Holsen Motors Patents Co. of this city. The building, which is to be a one story structure of brick with dimensions of 50 x 250 ft., will be located in the manufacturing district and will give ample freight facilities. It is to be equipped with the latest type of machinery and is expected to be in operation by Oct. 1. It will employ 100 men and the majority of these will be skilled mechanics. In February, 1904, the parent company completed the first of its couple gear trucks and placed it in severe tests in all parts of Chicago and New York. It is declared to be still in excellent working order, with no parts of the gears, pinions or tires showing appreciable wear. The officials of the new company state that they have a number of orders on hand for the building of these trucks. The outlook for the enterprise they believe to be exceedingly bright, and it is stated that as soon as this plant is in working order other subsidiary companies will be formed to manufacture still other devices and vehicles under the Holsen patents. The officers of the new company are: M. B. Church, president; George M. Savage, of Detroit, and Alfred M. Webster, of Grand Rapids, vice presidents; M. Clay Church, secretary and general manager; Wesley W. Hyde, treasurer. These constitute the board of directors.

FACTORY FIRE PROTECTION AND WATER SUPPLY.

In manufacturing plants, fire protection is imperative, since the destruction of buildings and their contents means the breaking up of general system and routine work, and opens the field of established trade to competitors during the period of reconstruction, inflicting losses which cannot be insured against, and which, in the majority of cases, necessitate practically the discontinuance or entire re-establishment of the business. The most disastrous fire that ever occurred could probably have been smothered at one time by a pailful of water, and the conflagrations in Baltimore, Toronto and other cities have demonstrated that fire pump, tank and sprinkler systems not only give protection from interior fires, but act as effective barriers to general conflagrations in thickly settled districts. The permanently lessened costs of insurance following the introduction of private fire protection, or, better, prevention, is in itself a considerable item. A reduction in the rate of as much as 40 percent is frequently made upon risks where sprinklers are installed with watchmen and a watchman's clock.

An example of the most modern practice is afforded by the

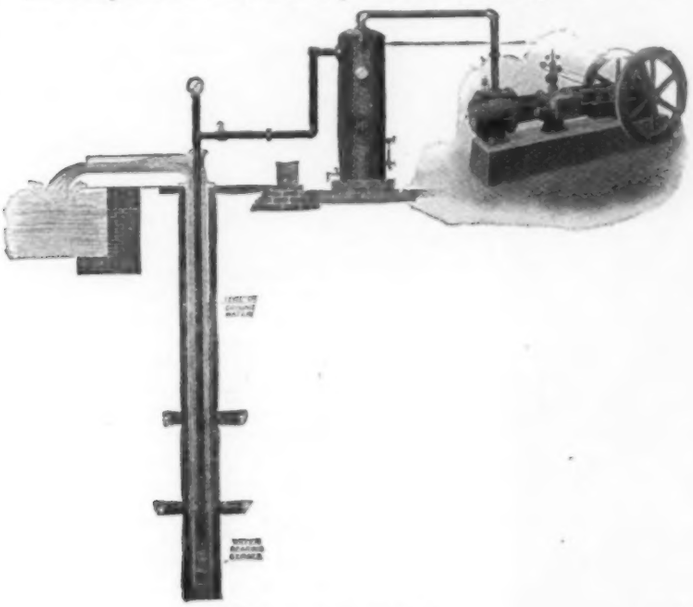


FIG. 1.—THE AIR LIFT.

new Henry R. Worthington Hydraulic Works at Harrison, N. J., and will be of special value now owing to the recent visit of the American Foundrymen's Association at the time of the New York convention. This plant covers 34 acres of ground and contains 18 acres of floor space and accommodations for 5,000 men. The buildings of the plant are of brick and fireproof construction, with the exception of the pattern shop, Fig. 3, which is of the slow burning type. The mains, which vary from 12 in. to 8 in. diameter and have been tested to 200 lb. pressure, form loops around all the buildings and feed the interior piping at many points. Gate valves at different points in the mains make it possible to shut the water off from any part for repairs or other purposes without interfering with the protection of any building. Twenty-seven fire hydrants, with two and three openings each, are judiciously distributed about the plant.

In the interior of the buildings, hose reels and hand grenades are conveniently located, and the Grinnell system of overhead sprinklers with glass valve seats is installed with one sprinkler to every 20 sq. ft. of roof and ceiling. These valves open as soon as a temperature of 200 degrees Fahr. is reached and distribute a strong horizontal spray in all directions. The discharge orifice is half inch in diameter. Half-inch nozzles and quick opening gate valves are used on the hose lines, which are 2 in. in diameter. Pressure gauges and automatic check valves are placed in the supply pipes or risers of the sprinkler system, and if the outside mains are broken on one side of a building, the check valves hold the water in the sprinkler system, which will still be supplied through the other connections to the mains. In addition to this provision, gate valves with indicator posts are placed in each connection from the mains to the risers.

In a system of protection, the water supply is an important factor. Indeed, the question of economical water supply for fire protection, the boiler plant and other uses, together with advantageous manufacturing and shipping facilities, settles the location of most extensive plants. A supply from the city mains may be altogether inadequate in time of need, and is in any case a source of constant expense. Before determining on the site, test wells were sunk which penetrated strata of disintegrated brown stone with a good supply of water at a depth of about 200 ft. An interesting fact is that the water is at first muddy but soon becomes clear, at the same time increasing in quantity due to the washing out of crevices in the rock. Deep wells furnish an ideal supply in densely populated districts, as they have none of the disadvantages and dangers of exposed streams and reservoirs. The four wells of the Worthington plant pass through loam, sand and hard pan before entering a bed of gravel and have an average depth of about 400 ft.

FIG. 2.—SEPARATOR OF AIR AND WATER.

Water is raised by the air lift, which is peculiarly well adapted to scattered batteries of bored or drilled wells. It permits centralization of the power plant, as the air compressor may be located at any convenient point and the air piped to the wells. It also eliminates all valves, plungers and other moving parts from the well itself, thus doing away with the air arising in other devices from sand and gravel. The principle of the air lift is illustrated in Fig. 1. Compressed air is forced into the water through a nozzle inside and near the bottom of the flow pipe, forming a column of mixed water, and air of low specific gravity within the latter which, under the pressure of the solid column of the water in the well outside, rises continuously. The submerged parts of the pumping outfit consists simply of the wrought iron casing, flow and air pipes, a strainer, an elbow and pipe connections, all of which are practically indestructible even when working in gritty water. At the Worthington plant there are four of these wells averaging 400 ft. in depth scattered within a 200-ft. radius, and having 8-in. casings, 5⅝-in. air and 4¾-in. flow pipes. One well discharges the mixture of air and water directly into the concrete basin or reservoir nearby. In the others the air and water discharge vertically from the flow pipe against an "umbrella," Fig. 2, which allows the air to escape while diverting the water back into an open concrete basin from which it flows by gravity into the reservoir.

Air is supplied to the wells at a pressure of from 80 to 85

lb. by a Laidlaw-Dunn-Gordon compressor in the main power house, having a capacity of about 800 cu. ft. of compressed air per minute, Fig. 6. Ninety lb. pressure is required to start the wells, but 60 lb. will maintain the flow. When it is desirable to pump an unusual quantity of water, or stop this compressor, a larger Cincinnati-gear compressor by the same builders, which furnishes the aid for the foundry, machine shop and other departments may be employed.

Fig. 4 shows the 500,000-gallon reservoir into which the wells discharge. It is of solid concrete four inches thick on a clay foundation, and in shape resembles the frustrum of an inverted pyramid, being 121 ft. long, 104 ft. wide, and 9 ft. deep in the center. At the right of the reservoir are three receiving basins, the first of which receives the discharge from the wells and overflows into the main reservoir. The middle basin is connected by a large screened passage to the main reservoir, and from it the underwriter fire pumps take their

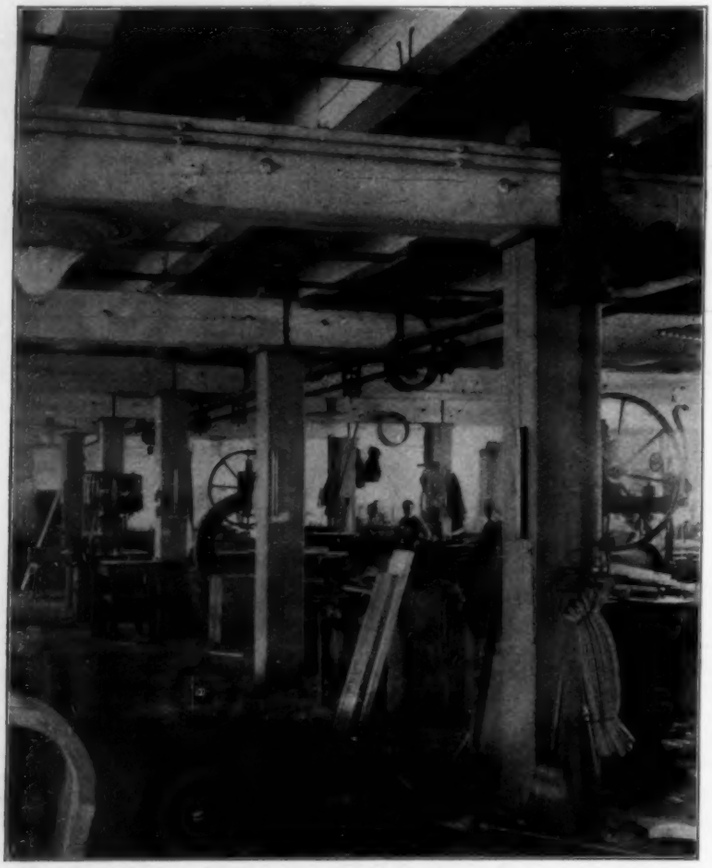


FIG. 3.—THE PATTERN SHOP.

supply. The third small basin acts as an overflow for the main reservoir, and also supplied the water used by the pumps of the hydraulic elevator system, from which the water returns by gravity to this same basin. The basin overflows to the sewer.

From the reservoir, water can be raised to a 100,000 gallon steel tank on a steel tower by either of two Worthington underwriter pumps of 1,500 gallons capacity each, Fig. 5. The tower is 135 ft. high and the tank 15 ft. deep, so that, as the tank is always kept filled, there is constantly on the service mains a head of 150 ft., creating a pressure of 65 lb. per sq. in. throughout the system. The stand pipe leading to the elevated tank connects with the main fire line system through a check-valve and by-pass at the point where the discharge from the pumps enters the system. Ordinarily, the by-pass is left open and the pumps are controlled by an automatic pressure regulator to maintain a pressure equal to that due to the head in a full tank. In this way the pumps supply the water for daily consumption just as it is needed.

In case of fire, the water from both the tank and the pumps is available, but if a higher pressure should be wanted, the by-pass may be closed, and, if the capacity of the pump is sufficient for the needs of the occasion, the check valve will also close, and a pressure of 150 lb. per sq. in. can be maintained by adjusting the regulating valves of the two underwriter pumps. If the pumps do not supply water as fast as it is used the check valve at the base of the water tower will allow water to flow into the mains from the tank. Since the two pumps have a combined capacity of 3,000 gallons per minute, if both are operating to their full capacity, night and day, it will take 6.06 hours to empty the reservoir, after which 1,350 gallons per minute can still be obtained from the wells. Should either of the underwriter pumps fail, the house pump and the hydraulic elevator pump may be turned into the system, thus making complete stoppage of the fire system practically impossible. Yet should such occur, there remains a connection through a water meter to the city mains which may be utilized to obtain 90 lb. pressure indefinitely.

Vice-Chancellor Pitney, of Newark, N. J., on June 6 appointed Elvin W. Crane receiver for the property of the Damascus Process Co. at Marion, N. J., and other places in the state. There was no opposition. Anton H. Schultze, of Hoboken, and Dr. Thos. J. Omara, John W. Cavanagh and Henry Henken, of New York, officers of the company, had received notice to show cause why a receiver should not be appointed on the allegation of insolvency. The insolvent corporation has an authorized capital of $1,000,000 and was organized to develop a secret process for the manufacture of steel that was expected to rival the traditional qualities of ancient Damascus.

The Canadian Tin Plate & Sheet Steel Co. has been organized and a manufacturing plant will be constructed at Morrisburg, Ont. The capital stock is to be $1,500,000, and it is expected that it will manufacture a large proportion of the tin plate, all of which is now imported from Wales and the United States. The works will give employment to 3,000 hands and the raw material will be supplied by the Dominion Iron & Steel Co. At the present time the imports of sheet steel and tin plate into Canada amount in value to $5,000,000 yearly and the demand is increasing very rapidly.

The Master Boiler Makers' association, at the recent convention at Chicago elected the following officers for the coming year: President, W. M. Wilson; first vice president, E. S. Fitzsimmons; assistant vice presidents, N. J. Richie, T. F. Low, William Harsley, P. F. Flager, M. O. Commers and C. F. Lape; secretary, George Clark; treasurer, Frank Gray. Retiring president Chas. Best was presented with a handsome gold watch and his daughter, Freda J. Best, with a diamond pin, by the delegates.

F. J. Hearne, president of the Colorado Fuel & Iron Co., Denver, Col., announces there is no truth in the report that his company will shortly let contracts for improvements at the Pueblo plant at a cost of $5,000,000.

The Buffalo Forge Co., Buffalo, N. Y., has received a large number of foreign contracts.

A PRACTICAL FOUNDRY SCHOOL.*

BY W. C. BRUCE, CLEVELAND.

There has been considerable discussion of late upon the question of where we are going to obtain our supply of competent mechanics in all branches of trade, but more particularly and the one that concerns us most is, where are we going to get our molders and coremakers? At the present time, with the limitations placed upon apprentices by the different unions, the supply is not equal to the demand.

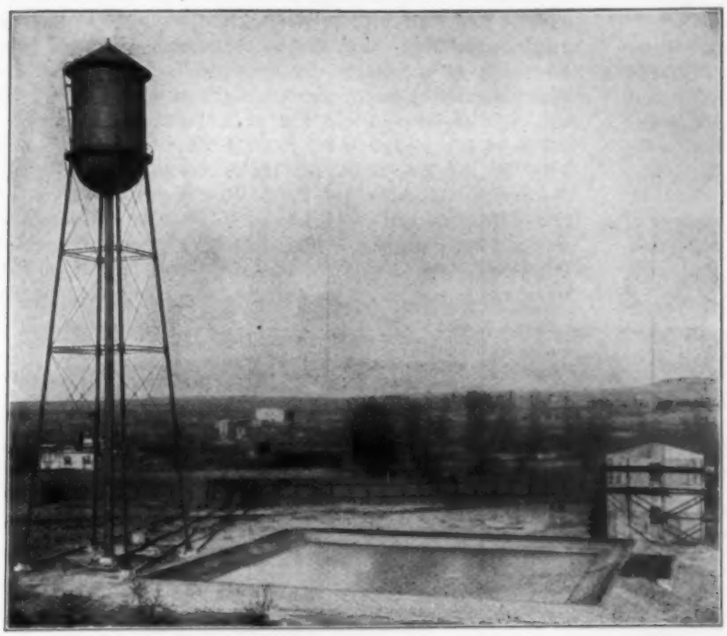


FIG. 4.—THE 500,000-GALLON RESERVOIR AND WATER TOWER.

There has been quite a number of other learned papers written on this subject, one by Mr. Higgins, before the American Society of Mechanical Engineers, and one by Professor Sweet, of Syracuse, New York, before the Engineers' Club, of Syracuse, and others. Professor Sweet in his paper remarked that it was probable that a practical school of this kind could never be formed until there was a good shop for sale, and some one philanthropic enough to buy and keep it for the purpose.

There are quite a number of technical schools in the country, but I have never yet seen a practical mechanic turned out of that kind of an institution.

A foundry school must have a general line of castings to make, so that when the apprentice is turned out, he will have a general knowledge of the business and be able to command wages as a practical molder or coremaker.

In an ordinary apprenticeship, as it is now carried on, there is no one to give the boy any special instructions, and if he makes a mechanic at all, it is because of his superior natural qualifications along that line.

There is no question in my mind but that we could get plenty of young men who would be very glad of an opportunity to learn a business or trade that pays as good wages as the average molder can make, provided he did not have to serve an unreasonable time to do so.

I believe that one year's experience in the proper school with the proper instructions would be equal to the present four years' course in the average foundry, and, in fact, six weeks for an ordinary intelligent man should be sufficient for him to learn to turn out good work on 75 percent of the work that is made in the ordinary foundry.

Now the writer has a proposition to make, that should it meet with your favor, will make the establishment of a practical foundry school an assured fact. I have a foundry building practically new that has a capacity for 30 to 40 tons per day, with two cupolas, electric equipment and everything complete ready to start business. This plant cost fifty thousand dollars ($50,000) and is complete in all its details, is located in a town of five thousand (5,000) inhabitants, in Ohio, and it can be secured practically as a gift. The purpose is to incorporate for one hundred thousand dollars ($100,000). Fifty thousand dollars ($50,000) in stock of this to go to pay for the plant and fifty thousand dollars ($50,000) for the working capital, to be divided up in one hundred dollar ($100) shares. This fifty thousand dollars ($50,000) would be sufficient to place the plant on a practical paying basis, and every stockholder would have the right to send as many boys to this school as he might see fit up to the capacity of the plant and in regular rotation. They would also have the right to have these apprentices educated on their patterns.

The writer will agree to market and take care of the output of the castings of this plant without in any way entering into competition with the stockholders who may be operating jobbing foundries.

Should any one prefer to make a donation towards this purpose instead of a stock subscription, they would be allowed the same privilege as a stockholder, as far as sending apprentices to the school is concerned.

Should this proposition meet with your approval, I may say I have the stock subscription to which I have quite a number of shares already subscribed. Stock to be paid for, 25 percent cash and balance in 60 and 90 days.

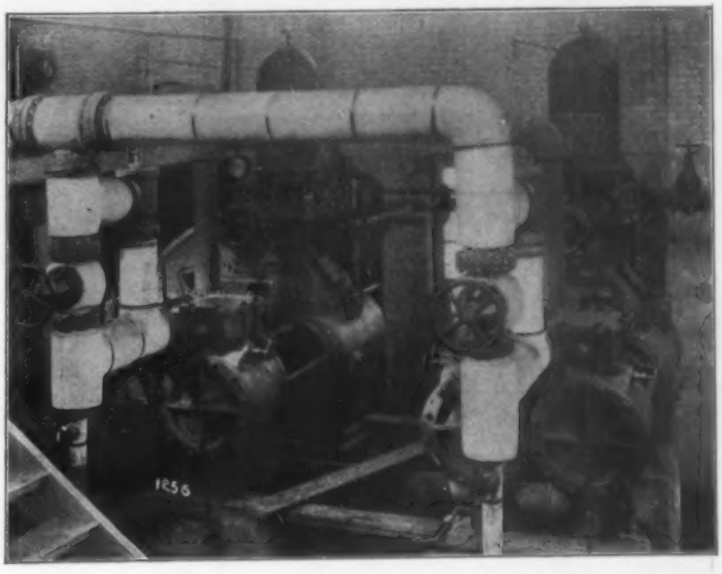


FIG. 5.—THE TWO UNDERWRITER PUMPS.

*Paper read at the New York meeting of the American Foundrymen's Association, June, 1905.

The Union Twist Drill Co., successor to Gay & Ward, Athol, Mass., is now purchasing new machine tools for its plant. Plans for the company's new buildings will soon be completed.

TRADE PUBLICATIONS.

The Detroit Seamless Steel Tubes Co., of Detroit, sends out in a neat folder a number of reasons advocating the use of its Detroit locomotive flues.

Several leaflets individually present arguments for the use of pipe joint compound for steam and gas pipe, flanges, etc., and flake graphite as a lubricant for steam cylinders and pipe fittings The two are made by the Joseph Dixon Crucible Co., of Jersey City, N. J.

The Norwalk Iron Works Co., of South Norwalk, Conn., has a folder devoted to air compressors. This describes the several features of the compressor made by this company, and gives particular attention to the skip valve automatically regulated on the Norwalk compound compressor. The compressor permits air to be obtained suitable for pneumatic tools and general power purposes as well as for the low pressure work in sand blasting, painting, removing chips, etc.

Some description of forge steel flanges for high pressure piping is contained in a recent publication of the American Forged Steel Flange Co., of Chicago. These are made for high pressure work and will suit most exacting requirements. A noteworthy test by R. W. Hunt & Co. illustrates the high quality of this company's product.

The National Electric Co., of Milwaukee, has a publication, No. 66, intended to give a general idea of its electrical products. The bulletins of the firm deal with details of construction and give full particulars of direct and alternating current machinery in all capacities and types.

"Superheated Steam" is mainly devoted to the Foster-superheater, manufactured by the Power Specialty Co., of Dansville, N. Y. The catalogue is profusely illustrated with numerous line and halftone engravings.

A series of bulletins from the Browning Engineering Co., of Cleveland, describe locomotive cranes for steam power plants, for use in the lumber industry and for other industrial applications. Another bulletin describes an automatic grab bucket of an improved clam-shell type. This bucket is illustrated with several views and the bucket operating mechanism is shown in dissected form.

A blue book of air compressors is published by the Ingersoll-Sargeant Drill Co., of New York. Straight line and duplex air compressors, both steam and power driven from line shaft, water wheel, electric motor or gas engine, are briefly discussed. Many of the devices mentioned are described at greater length in other and special publications of the company.

The catalogue of the Cincinnati Electrical Tool Co., of Cincinnati, describes the portable electric drills made by this firm, and goes into considerable detail with reference to the appliances and their uses in shops. The company also makes a grinder which is illustrated in the same publication. This grinder is of a portable character with armature shaft and wheel spindle in one piece. The grinder can be furnished with a universal tooth rest and internal grinding attachments.

Two neat pamphlets were gotten out by the Yale & Towne Mfg. Co., of New York, for the American Railway Master Mechanics' convention and the Master Car Builders' convention. These contain maps showing the new underground railway and other features in and around New York. These will doubtless be found of a considerable degree of usefulness to strangers in that city. Incidentally these publications present arguments for the chain blocks, electric hoists, locks and other hardware made by the Yale & Towne Mfg. Co.

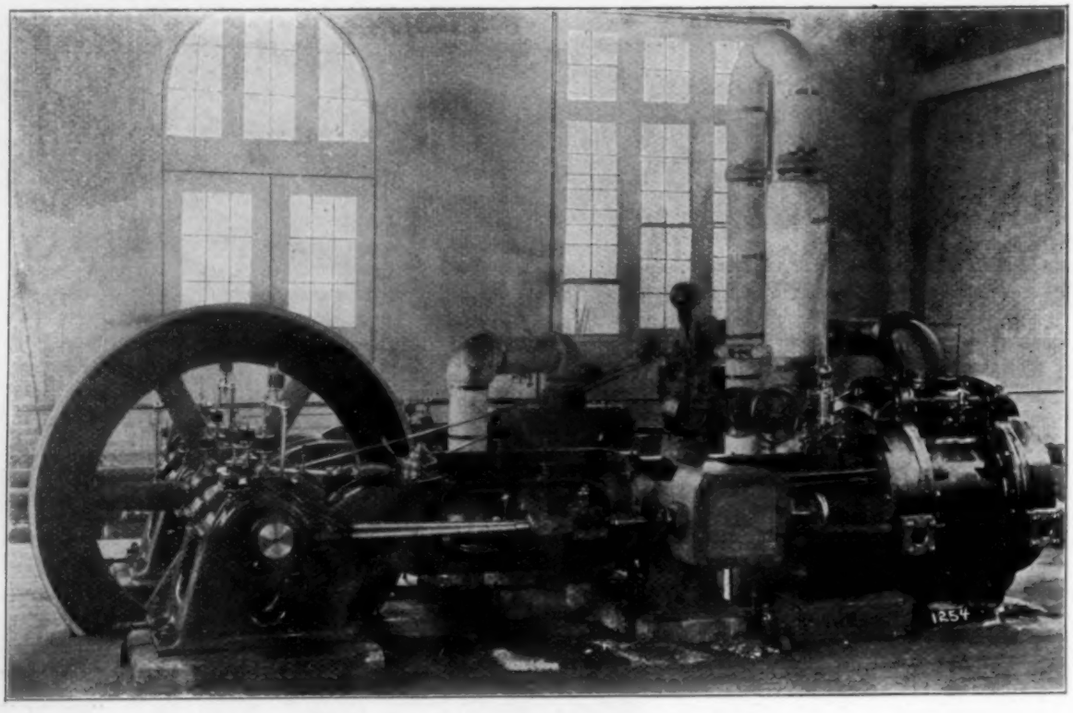


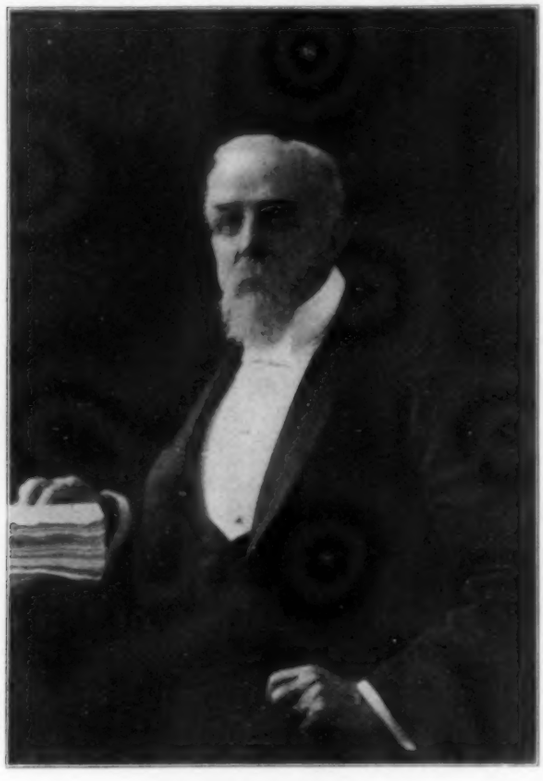
FIG. 6.—THE AIR COMPRESSORS.

The Higley metal saw is discussed in a pamphlet from the VanDyck Churchill Co., of New York. This deals with the method of drive, the automatic feed and the general compact design of the tool. Two other good halftones reproduce with faithfulness the well known appearance of machinery steel when cut at different speeds. There are other illustrations of equal excellence and the various sizes of this tool are very well exhibited with a full exposition of their peculiarities.

Some notes on induction integrating wattmeters and their use were presented by A. A. Serva in a paper read before the second annual meeting of the Colorado Electric Light, Power and Railway Association. A complementary issue of this paper is distributed by the Ft. Wayne Electric Works, of Ft. Wayne, Ind. The reprint has numerous diagrams illustrating frequency curves and voltage variation, as well as such details of integrating wattmeters as are essential to a thorough understanding of this noteworthy instrument.

DEATH OF EDWARD HARVEY PARKS.

Edward H. Parks, designer in the engineering department at Brown & Sharpe Mfg. Co.'s plant at Providence, R. I., died of heart disease June 9 after an illness of ten months. Mr. Parks was born in St. Johnsbury, Vt., in 1837, and when five years of age his parents moved to Worcester, where he was educated in the public schools. His parents moved to Providence from Worcester in 1854. Mr. Parks entered the employ of the Brown & Sharpe Mfg. Co. in 1866 as foreman of the machine shops. He held this position for about 13 years, and in 1879 was made mechanical engineer of the firm, having charge of the mechanical departments. Some time after this, he started in business for himself in Worcester, but in 1897 was again employed by Brown & Sharpe, assuming the position of designer in the engineering department. Mr. Parks was a man of considerable inventive genius. He had a remarkable memory, especially for any engineering facts, and had been active in building up the business. He was a member of the American Society of Mechanical Engineers from 1881 and also belonged to the Providence Engineering Society. He leaves a widow and son.



EDWARD H. PARKS.

A mechanical engineer of Providence, R. I., well known in the machine tool trade and having had a close friendly relationship with Mr. Parks for many years, has sent *The Iron Trade Review* a letter from which we make the following extracts: "Mr. Parks was a great reader, and a man who possessed an unusual memory, as well as having more than ordinary mechanical mind; and from the fact that he read mechanical subjects extensively he was the man I resorted to, perhaps, more frequently than any other to inform myself with regard to subjects that I knew little or nothing about. His relations with me through life have been of a friendly and cordial nature. Mr. Parks' strongest point was his artistic taste in regard to the forms of macihnery and the general appearance of it; and not only on machinery, but on anything that he took up, he generally left some marks of good taste. Ht was well known in the engineering circles of this country, that is, in our line of business, and always attended the meetings of the American Society of Mechanical Engineers, where he was well known and always welcome. His first work with the Brown & Sharpe Mfg. Co. was that of general foreman, taking charge of all the departments in the shops, and after he was relieved from that he was put in as mechanical engineer, which position he occupied when he was placed in the designing department. He was called upon often by the mechanics there for advice and help. He was naturally rather reserved, and modest in his tastes and in his expressions with regard to subjects that he discussed. He had been in Europe two or three times, and was well acquainted with customers there and with the mechanics of that part of the world."

SEVERE BLOW

To Chamberlain Movement—Position of Canadian Manufacturers.

TORONTO, Can., June 23.—Considerable significance attaches to the visit to England of a large number of members of the Canadian Manufacturers' Association in connection with the agitation now in progress for an imperial preferential tariff. The movement, headed by Mr. Chamberlain in England, has been ostensibly favored by the manufacturers here who realize the immense advantage of a preference in British markets for Canadian wheat. Their contention is, however, that Canada has already done enough in conceding the present 33 1-3 percent preference upon British imports and that they are not willing to make such a substantial reduction in the tariff as would enable the British manufacturer to compete on equal terms in the Canadian market.

The British end of the movement is based entirely on the assumption that the colonies, and particularly Canada, would be willing in return for a preference on wheat, etc., to make some tangible return by which British manufacturers could obtain a considerably larger share of the Canadian market than they now enjoy. Otherwise there would obviously be no commercial object in establishing a preferential wheat duty with the probable effect of increasing the price of bread.

In view of the uncertainty of the attitude of the colonies, the visit of the Canadian manufacturers at this critical juncture has excited more than ordinary interest, and their utterances have been eagerly looked for by English politicians. At the banquet of the London Chamber of Commerce on June 20 Mr. W. K. George, president of the Canadian Manufacturers' Association, delivered a speech which emphasized the necessity of protection to Canadian industries, claiming that as the result of the existing tariff hundreds of millions of American dollars had been invested in Canadian industries, as compared with which British investments only amounted to about one million. He pointed out that the large immigration to the United States and their rapid development had been due to protection and that Canada was now achieving similar results.

The effect of this and other utterances along the same line will be a severe blow to the Chamberlain movement in Britain, as tending to disillusionize the British public as to the supposed readiness of Canadians to yield any portion of their home market to rival manufacturers.

The Safety Lock & Knob Co., Cazenovia, N. Y., has been incorporated with $100,000 capital stock to manufacture locks, door knobs and hardware. The incorporators are: Battese Revoir, Bartis M. Revoir, Eugene B. Goodrich, all of Syracuse, N. Y.; Myrta E. Howell, Onondaga, N. Y.; Emmet H. House, Fulton, N. Y.

The new soft iron foundry of the Pennsylvania Railroad Co., at S. Altoona, Pa., is now in operation. H. H. Stone is foreman and Philip McGarvey assistant foreman.

A SPECIAL ELECTRIC TRAVELING HOIST.

The electric traveling hoist shown in the illustrations was designed and built by Pawling & Harnischfeger, Milwaukee, Wis., for Williams & Wilson, Montreal, Can. and shipped to the Canada Sugar Refining Co., of the same place. This special design was necessary to meet the existing construction of the runway upon which the hoist is to operate, and for running on a curved track.

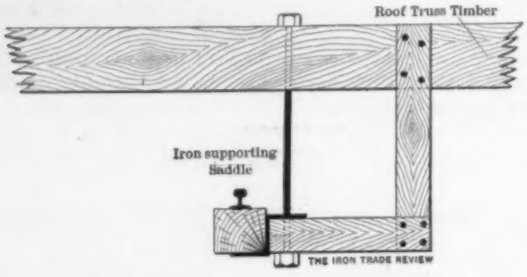


FIG. 1—DETAIL VIEW OF RUNWAY SUPPORT.

Fig. 1 shows the support of the runway. This is of wood construction with a standard T-rail for the trolley track. The trolley drive consists of two motors supported by the truck wheel housings; the spur gearing from motors to truck wheels is part of this mechanism and is on opposite side from motors. The connecting bar between the trolleys is simply to maintain their relative distance apart. The four truck wheels (two to each trolley) are in alignment and flanged to run on the single rail. The two trolley motors are wired to a double faced controller which is connected in parallel, so that one lever operates both motors simultaneously making both do equal duty in trolley travel. One trolley motor is provided with a very effective brake directly connected to the motor armature shaft and manipulated by the operator from the cage with a conveniently located hand lever. Trolleys are geared to travel 600 to 800 ft. per minute and provided with a safety device in case of trolley jumping the track. Suspended from the trolley housings are two heavy steel telpher arms pivoted on substantial steel pins in the housings and free to swing on the pins. Upon the arms are fastened steel yokes with connecting links passing through heavy girts which are part of the I beam frame upon which the hoisting motor and mechanism are supported. The operator's cage is also fastened to this frame.

The hoist motor and accompanying mechanism are the builders' standard parts as used on their regular electric cranes, the motor being coupled to the load brake pinion shaft by a friction coupling adjustable to any desired load. The drum shaft is supported by bearings in girts of I beam frame and has two drums keyed on, these drums being grooved right and left for steel cable carrying the two bottom block sheaves and sling ring supports. The hoist is geared for a speed of 60 to 100 ft. per minute and located for a 50 ft. lift.

This machine is used by the Canada Sugar Refining Co. for carrying sacks of sugar stock from team trucks to warehouses and from the latter to the refineries. A number of sacks are stacked in slings which are hooked into the rings seen in illustration, thus enabling the carrying of some 5 to 6 tons at one trip. One main track enters the warehouse and from this a number of parallel branches are run the length of building so as to facilitate the switching of the traveling hoist onto any branch. The design is neat and of substantial construction and readily shows one of the many ways Pawling & Harnischfeger have of adapting their well known machinery to the varying needs of their clientage.

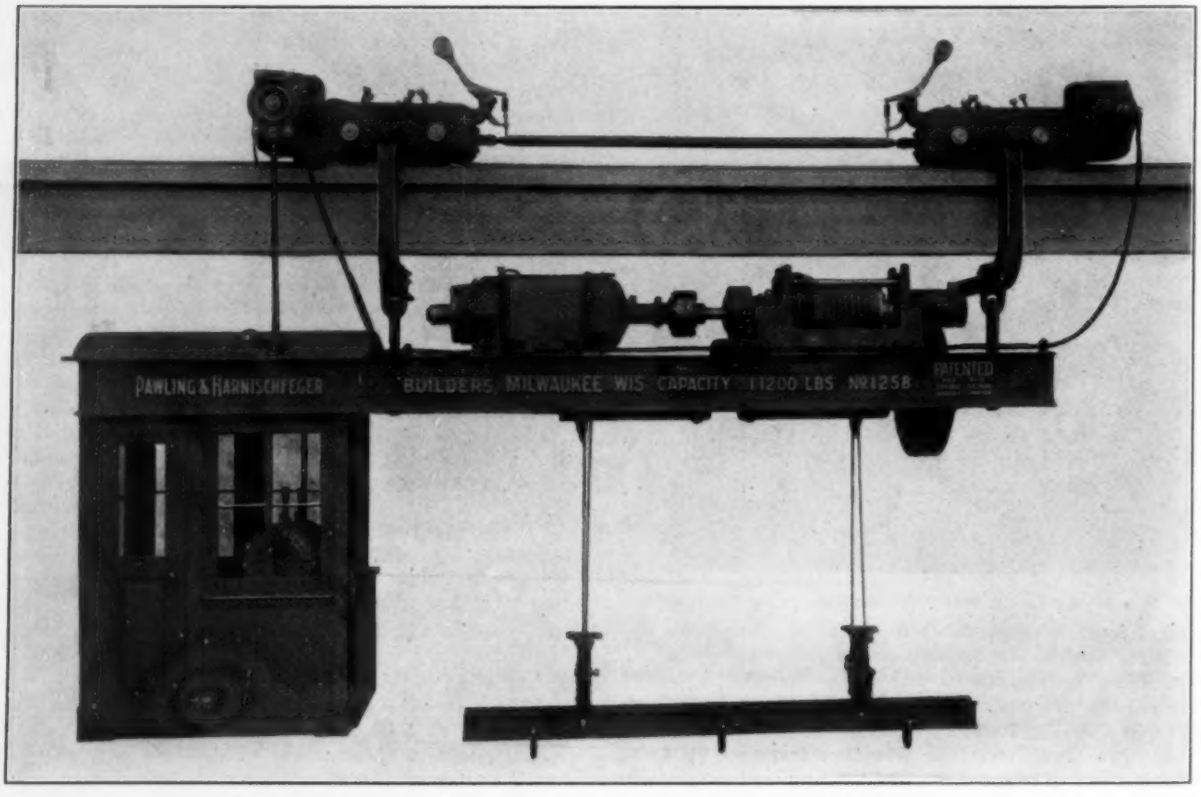


FIG. 2—ELECTRIC HOIST FOR HANDLING SACKS OF SUGAR.

E. E. Hughes, receiver for the Franklin Rolling Mill & Foundry Co. has entered into contract with the Chicago Pneumatic Tool Co., whereby the former will manufacture all the grey iron castings used by the latter company, whose foundry has been closed on account of labor troubles.

WELLMAN-SEAVER-MORGAN AIR COMPRESSOR.

The cylinder and valve arrangement for air compressors shown in Fig. 1 has been brought out and adopted by the Wellman-Seaver-Morgan Co., of Cleveland. This design is especially adapted to high speed work and embodies a principle developed several years ago in South Africa, by one of the engineers of the company. The particular compressor shown herewith, has a capacity of 4,000 cu. ft. of free air per minute compressed to 75 lb. gauge pressure. There are two air cylinders, the intake cylinder being 40 x 60 in. and the high pressure cylinder being 25½ x 60 in. The air cylinders are water jacketed.

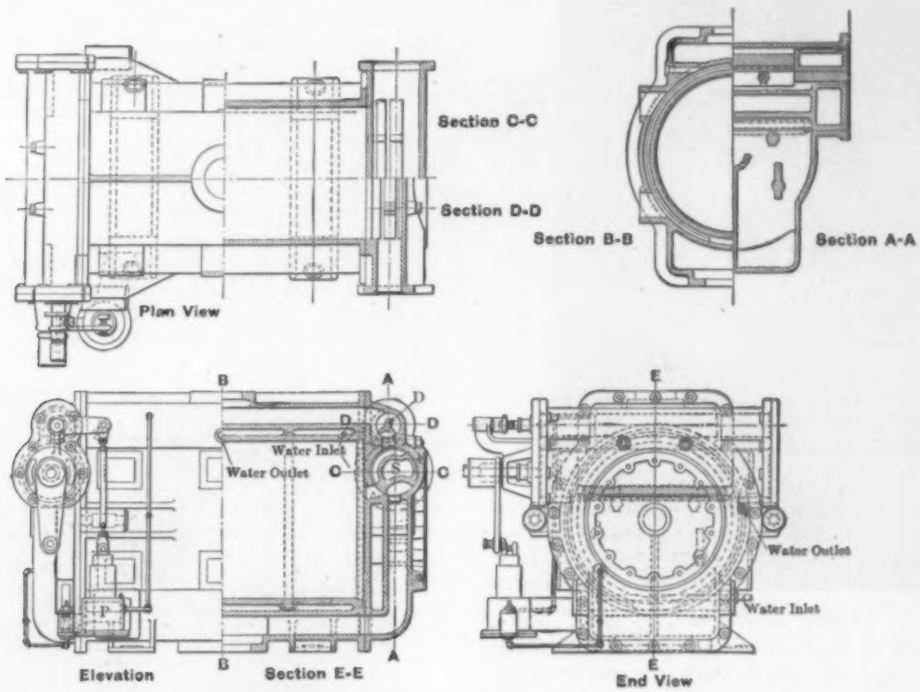


FIG. 1—DETAILS OF AIR COMPRESSOR.

The general purpose of this design is to completely separate the positive closing of the discharge from its automatic opening. This is accomplished by dividing the discharge valve into two parts, one of which is positive and a part of the mechanical inlet valve S. The discharge valve D is automatically controlled by a differential piston P operated by air pressure. The inlet S also positively controls the opening to the discharge valve D, the opening being timed to take place near the beginning of the compression stroke.

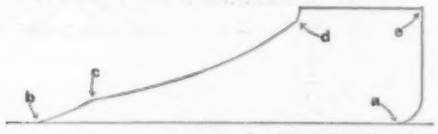


FIG. 2—THE THEORETIC AIR CYLINDER CARD.

The theoretic card, Fig. 2, exhibits the events during the stroke. At a the valve S begins to open the inlet passage to the cylinder, air being drawn into the cylinder up to the end of the stroke at b, at which latter point the inlet is closed by the return of the valve. As the piston moves toward the right, the valve S continues to rotate towards the left. At the point marked c on the diagram, the cylinder is brought in connection with the passage leading to the discharge valve D. The discharge valve does not open until a point d is reached, the opening pressure being made a little less than the discharge pressure by the proportions of the differential piston P which controls the valve D. This arrangement overcomes any tendency of the air pressure in the cylinder to exceed the discharge pressure. The outlet valve D remains open during the entire discharge period and only commences to close on the return stroke of the main piston. In other words, the valve D closes during the period represented by the line e-a-b on the diagram. The time required for the opening and closing of the discharge valve is thus extended from about ¼ of a stroke, with the usual poppet valve, to about 1¼ strokes with the improved valve. This feature permits high speed. There are no springs, hooks or complicated devices, and all parts, with the exception of the valves, are outside the cylinder. In case of water accumulating in the cylinders or operating pot, the valve D lifts from its seat and relieves the excessive pressure.

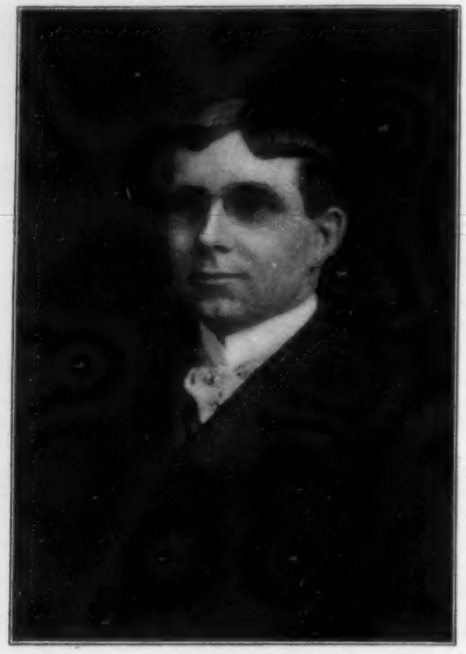
The inlet area of the compressor is so proportioned that the loss of pressure in the cylinder at the end of the inlet stroke, is less than two ounces per square inch. This design reduces the clearance to less than one percent, and the weight of air discharged per stroke is over 92 percent of the weight corresponding to the piston displacement. The inlet valve S is driven by a heavy eccentric.

Mr. George R. Wadsworth has resigned his position of resident engineer on the New York Central Railroad to accept a position on the staff of J. G. White & Co. as assistant construction superintendent. Mr. Wadsworth graduated in 1898 from the Massachusetts Institute of Technology in civil engineering. Since graduation Mr. Wadsworth has been continuously employed on the New York Central Railroad, first being assigned to the office of division engineer at Albany, after which he worked in various capacities, ultimately being appointed assistant engineer. After having performed several classes of work Mr. Wadsworth was appointed resident engineer of the Hudson district in charge of the contract work from Motthaven to Croton and it is this position which he leaves to join the J. G. White & Co. forces.

Crane Co., of Chicago, Ill., announces that about June 24, the general offices and sales departments will move to the new office building at 519 S. Canal street, near the Judd street plant. The old location at 10 N. Jefferson street has been used by the company since 1864, and a branch of the city sales department will be continued at the old address.

Victims of the Wreck of the Lake Shore Limited at Mentor, Ohio.

The new east-bound Twentieth Century Limited passenger train running on an 18-hour schedule between Chicago and New York on the Lake Shore & Michigan Southern railroad, was wrecked at Mentor, O., about 25 miles east of Cleveland,



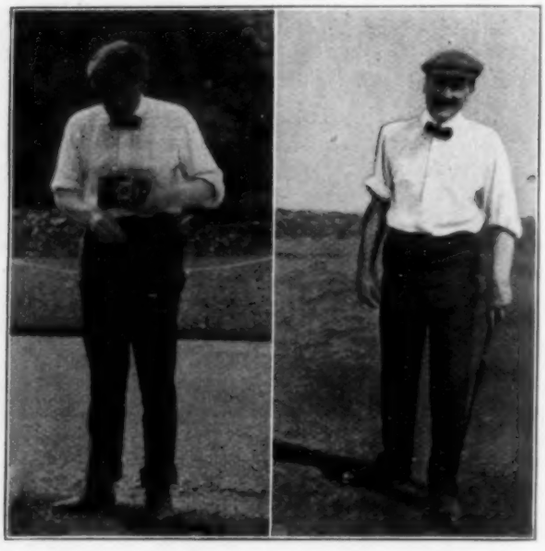
CHARLES H. WELLMAN.

on the evening of Wednesday, June 21. There were nineteen fatalities and the accident brought death to a number of men prominent in iron and steel lines. The Wellman-Seaver-Mor-

THOMAS R. MORGAN.

gan Co., of Cleveland, was heavily stricken. The dead includes Charles H. Wellman, general manager; Thomas R. Morgan, second vice president and works manager; Archibald P. Head, of Jeremiah Head & Son, the London representatives. Mr. Head was also a managing director of the Otis Steel Co., of Cleveland. Heavy as is the loss sustained by the Wellman-Seaver-Morgan Co. in the sad demise of these valued members of their organization, it is well to realize that the very men now removed from active participation in the work of the firm have built up so efficient and complete a reserve force that the plans and progress of the enterprise they have left will not stumble nor falter. The blow is indeed bitter, but by no means blighting. The systematic management they have done so much to inculcate is now perfected and complete and will move with the certainty and momentum characteristic of the best of the company's highly developed mechanical product.

The funerals of Charles H. Wellman and Thomas R. Morgan were held last Saturday at the Old Stone Church, Cleveland. A thousand workmen employed by the Wellman-Seaver-Morgan Co. attended the double funeral. About 900 were from the Cleveland plant and the rest came from the works of the Webster, Camp & Lane division at Akron, O. All the employes of the Electric Controller & Supply Co., of Cleveland, a firm closely affiliated with the Wellman-Seaver-Morgan



ARCHIBALD P. HEAD.

Co., also attended the ceremonies. The remains of Archibald P. Head were shipped to London the following Monday.

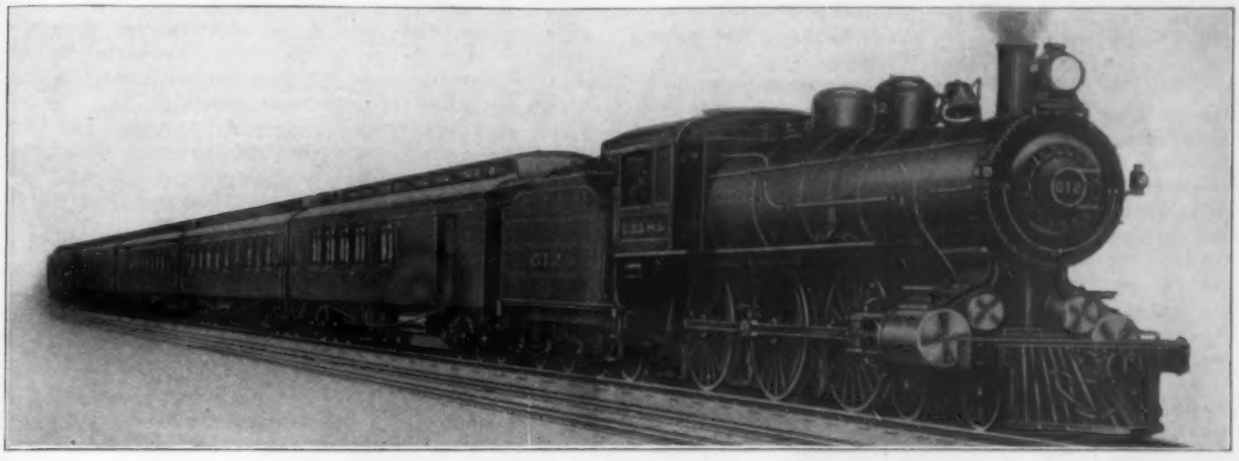
H. H. Wright and A. L. Rogers.

Among the other victims of the ill-fated flyer were Harry H. Wright of Oak Hill, Ill., and A. L. Rogers of Dayton, O. Mr. Wright was general manager of the Featherstone Foundry & Machine Co. and vice president of the Hewitt Mfg. Co., of Chicago. His remains were taken to Chicago by W. F. Smith, superintendent of the Featherstone Foundry & Machine Co. and later the body was removed to Toledo, O., for burial. A. L. Rogers was of the Platt Iron Co. of 93 Liberty street, New York. His home was in Dayton, O., where the body was taken. Mr. Wright's portrait is on another page of this issue.

Charles H. Wellman.

Charles H. Wellman was born June 12, 1865, at Nashua, N. H., where his father was superintendent of the Nashua Iron Co. He left home in October, 1881, and secured a position at the works of the Morgan Engineering Co., at Alliance, O., serving his term as a machinist and draftsman. In 1885 he

became chief draftsman at the Otis Steel Works in Cleveland, and in a few months was given charge of the open-hearth department. In January, 1890, he resigned and moved to Thurlow, Pa., where he was made superintendent of the Wellman Steel Co. He left there in 1895, having been appointed open-hearth superintendent of the main works of the Illinois Steel Co., of South Chicago, which had just been completed. He filled that position until the organization of the Wellman-Seaver Engineering Co. This company was organized by S. T. Wellman, John W. Seaver and Charles H. Wellman.



TWENTIETH CENTURY LIMITED READY FOR EIGHTEEN HOUR TRIP.

The latter left the Illinois Steel Co. for this purpose and became engineer and general manager of the new firm and later held the same position with the Wellman-Seaver-Morgan Co. He has also been president of the Electric Controller & Supply Co., of Cleveland.

Thomas R. Morgan.

T. R. Morgan, second vice president and works manager of the Wellman-Seaver-Morgan Co., was a native of South Wales. He came to this country in 1865 at the age of six. At Pittsburg his father organized the Pittsburg Steam Hammer Works and in 1868 the boy of nine began work in the shop. For two years he fired the 75-h. p. boiler and in turn operated the engine and the various shop tools. He had reached the Pittsburg high school when his father removed to Alliance. The firm there was Marchand & Morgan, later Morgan, Williams & Co., and finally the Morgan Engineering Co After finishing his studies at Mt. Union College T. R. Morgan entered the works at Alliance and served an apprenticeship in the various departments and spent some time in the engineering and drafting offices. He speedily became superintendent of the works and at 21 was general manager, and at 25 was secretary and general manager of the Morgan Engineering Co., holding this position until 1897. Then on the death of his father he disposed of his interests and severed his connection with the company, for the next four months enjoying the first vacation of his life. On taking up work again he formed a connection in 1902 with the Wellman-Seaver Engineering Co., of Cleveland, and later the firm became the Wellman-Seaver-Morgan Co.

Archibald P. Head.

Archibald Potter Head was educated at Clifton College and University College, London. In 1890 he became assistant to his father, Jeremiah Head, consulting engineer, and in 1894 became his partner, moving the office from Middlesborough to London, under the style of Jeremiah Head & Son. The firm became the London representative of the Wellman-Seaver Engineering Co. in 1897 and has continued in that capacity to the present time, important changes in both companies having brought about no intermission in the business relationship. Jeremiah Head died in 1899 and in 1904 another son, Benj. W. Head, was taken into partnership, the style of the firm remaining unchanged. Since 1899 A. P. Head has acted as joint managing director of the Otis Steel Co., Ltd., Cleveland, which he has visited sixteen times. He has read papers before the Institute of Civil Engineers, Iron and Steel Institute, Society of Arts, etc., on engineering and metallurgical subjects. He was of most companionable mold with athletic tastes as well as the scientific zeal for engineering studies appropriate to his life work in iron and steel lines. His zest for golf made possible the presentation here made of his latest portraits. These were taken by his friend, Charles A. Post, president of the Dime Savings & Banking Co., of Cleveland, whilst he was enjoying

VIEWS OF THE WRECK AT MENTOR.

himself on the links of the Euclid Club in that city and but a few days prior to the fatal accident. Mr. Head was a member of two London clubs of prominence, the Savage Club and St. Stephens.

Herman C. Mechling.

Herman C. Mechling, another who lost his life in the wreck of the Twentieth Century Limited, was in his fiftieth year, was born and raised in Pittsburg, Pa., and in his early business life was connected with the Volta Galvanizing Co., of that city. The concern later became the Apollo Iron & Steel Co. In April, 1886, Mr. Mechling became identified with the Beaver Falls Iron Co., of Beaver Falls, Pa., and in April, 1887, he went with the Whitaker Iron Co., of Wheeling, W. Va., as eastern sales agent, with offices in New York, in which capacity and location he continued until 1900, when the Whitaker Iron Co. combined the selling end of its business with that of its constituent, the Wheeling Corrugating Co., with whom Mr. Mechling was connected as manager of the New York store or warehouse until the time of his death. Mr. Mechling married Miss Helen Evens, of Pittsburg, and who, with a son and daughter, survive him, the son, Harry E. Mechling, for several years has been and still is with the Wheeling Corrugating Co.'s New York warehouse. Mr. Mechling's terrible and untimely death has not only been a great shock and sorrow to those who have been associated with and held him in the highest esteem during the 20 years that he has been identified with the firm he represented, but has also elicited a profound expression of sorrow from a great number of personal and business friends whose privilege it was to know the honorable, genial, well-rounded man, whose friends were legion.

James. H. Gibson.

James H. Gibson, secretary and treasurer of the American Foundry & Machine Co., Chicago Heights, Ill., was born in Bloomington, Ill., in 1868. Mr. Gibson had been with the company sixteen years, having first entered its employ as stenographer. He was a man of great force of character and personal megnetism and largely through his energetic efforts the company's business had grown from a small beginning at Fort Scott, Kansas, to its present large proportions. The company moved to Chicago in 1892, having purchased the foundry and shops of Walburn & Swenson at Chicago Heights. Its output is screw making machinery. Mr. Gibson leaves a widow and two children. A half-tone portrait of Mr. Gibson is on another page of this issue of *The Iron Trade Review.*

CLEVELAND CAP SCREW COMPANY HONORED.

The recent award of the John Scott Legacy Premium and Medal to the Cleveland Cap Screw Co., Cleveland, has called the attention of others than its customers, to this concern, the special feature of whose product has won for it the above distinction. The Scott Medal is an award provided for by the interest on a legacy of $4,000 left in the control of the city of Philadelphia by John Scott, of Edinburgh. This honor has been possible since 1816 and has come to be awarded to the originators of ingenious devices upon the recommendation of the Franklin Institute.

The principal output of this company consists of cap screws of from ½ in. to 2 in. diameter which differ from the ordinary ones in that the stem is cut from cold rolled stock of the same diameter as the finished screw, and the black stem is welded to the head, which has been cut from cold rolled hexagonal bars of the same size as U. S. S. nuts and bolt heads. In cutting off the head a shoulder is turned up, about ⅛ in. long and of the same diameter as the blank stem. To weld the head and stem together, they are placed in internally water cooled chucks which are the terminals of an A. C. circuit whose initial voltage is stepped down from 300 volts to about two or three, across the terminals, with a corresponding amperage of 30,000. The chucks, which are fixed on sliding platens on the welding machine, are brought together by means of a hand lever so that the stem butts against the shoulder on the head and closes the circuit. The great heating effect of the high ampere current employed produces a welding temperature at the joint and the pressure exerted by the operator through a system of levers not only insures the burning of impurities at the joint, but establishes good contact as evidenced by the formation of a heavy burr. In making the larger sized screws, hydraulic pressure is used.

The screw is then finished by two machines. An automatic tool sheaves and chamfers the head, mills off the burr and points the end of the stem in one operation, after which the thread is cut in the second machine. The company has an adequate polishing room for finishing such screws as are not ordered black. The advantages claimed for the screw described over the ordinary cap screw are threefold. First, the waste involved in turning down the hexagonal bar, of the size of the head, to the diameter of the screw, has been avoided by using the cold rolled round bars of the same diameter as the finished screw. Second, the strength of the thread is increased by cutting it on the surface of the cold rolled stock rather than in the core, as is done when the stem is turned down from hexagon bars, since the core is softer than the surface of such cold rolled material. Third, a head of the same size as the U. S. standard nuts may now be employed, since the cost of turning down the stem is avoided and the advantages of the electrically welded cap screw that accrue from a uniformity in appearance, from a size that is adapted to standard wrenches and from the larger bearing surface afforded by the larger head.

The company does not confine itself to the manufacture of steel headed screws but also welds brass heads to steel bodies and makes entire bronze screws. Special orders for welding of a similar nature are also taken. The company is installed in a three-story building, has its own power plant, both mechanical and electrical, is well situated as regards shipping and is doing a thriving business.

MUCH ACTIVITY

In the Mining Regions of Northwestern Ontario—Canadian News.

TORONTO, Can., June 23.—Reports from the mining regions of Northwestern Ontario indicate unusual activity in prospecting for iron ore. The development of the iron manufacture has resulted in a greatly increased demand for the raw material and in bringing into the market properties that were formerly regarded as unavailable on account of their distance from the railroads. The installation of a heavy plant at Atikokan for the production of ore for the Port Arthur smelter is going forward and further prospecting in the same locality has been undertaken by Smith & Kennedy, of Kenora, with the diamond drill. E. Patterson, of the Chandler mine, who has large interests in the district, is making explorations for ore deposits.

The Department of Trade and Commerce at Ottawa has been formally notified by the Dominion Iron & Steel Co. of the beginning of the manufacture of steel rails at Sydney, N. S., and has also received a notification from the Nova Scotia Steel & Coal Co. that it will begin the manufacture of steel ingots early in July.

The progress made in Western Canada in the construction of heavy machinery is illustrated by the turning out at the Vulcan Iron Works, Winnipeg, of a roll grinding machine for the Ogilvie Flour Mills Co., weighing four tons. The bed of the machine is of solid iron about 10 ft. in length, 3 ft. wide and 2 ft. thick, and it can grind a roll 5 ft. long and 18 in. in diameter. The same company has completed a peat machine weighing 12 tons for H. S. Patterson and has received an order for another of the same capacity.

F. H. Clergue, of Sault Ste. Marie, was in Ottawa this week on business connected with the experiments to be made at the

Sault works with the electric process of ore smelting and steel manufacture. Mr. Herault, the French expert who is to conduct the experiments, is expected to arrive in Canada during July.

The Canadian Seamless Wire Co., Ltd., has been incorporated under the laws of Ontario, head office Toronto, capital $50,000. Provisional directors: Wm. B. Gladding, Ernest H. Fairbrother, Henry E. Smith and Harold P. Smith.

The Seibert Curtain Pole Co. has been incorporated under the laws of Canada, head office, Toronto, capital $20,000, to manufacture articles of iron, metal wood and fibre. The incorporators are: Thomas C. Seibert, Edward J. Butler, Edward Williams, John Williams and Elias Lewis.

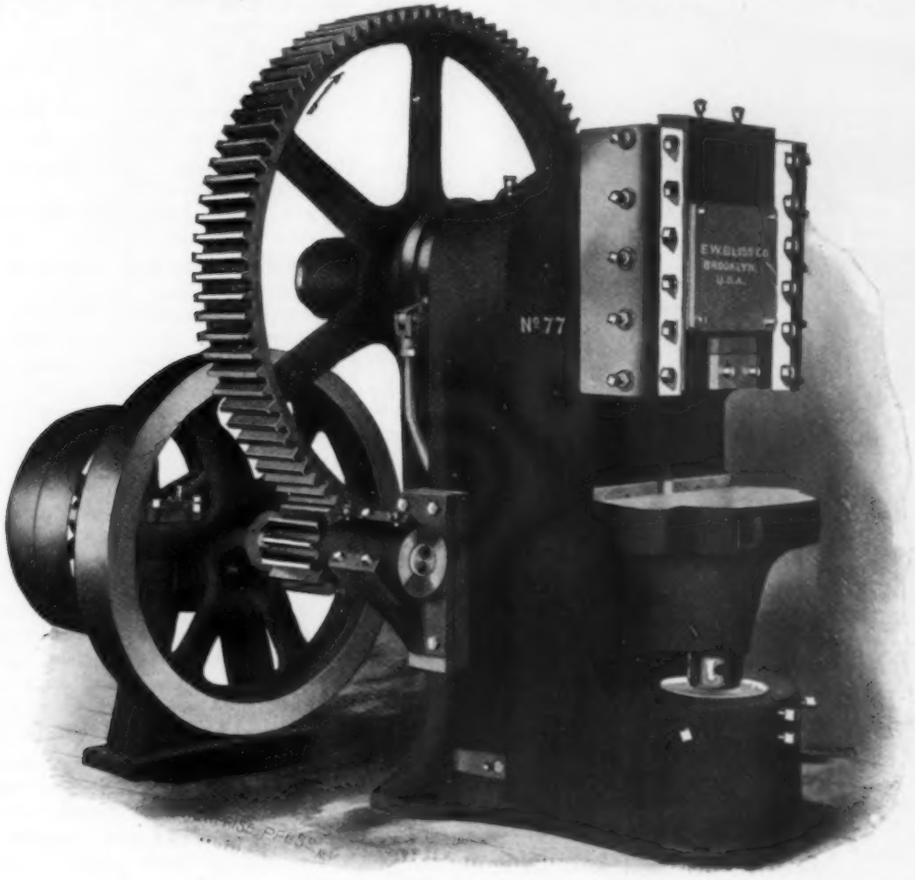
The Wellman-Seaver-Morgan Co., of Cleveland, has a special catalogue treating of ore and coal handling machinery. This is an exceedingly elaborate affair, in the way of a trade publication, and is 9 x 12 in. with over 100 pages. The illustrations are in most cases of full page dimensions, and numerous representative plants equipped with modern machinery for handling materials are shown. As a specimen of typography alone the book is well worth preservation, and the illustrations and tables of unloading records, etc., are useful for reference. The company also builds and installs water power equipment, and the installations for heads up to 100 ft., utilize the well known Jolly-McCormick turbines. Special wheels are furnished for higher heads. A 6 x 9 in. catalogue illustrates with considerable detail a number of turbines constructed by the company. Several tables of much usefulness are given in the publication.

Judge Clark of the United States District Court, Tennessee division, has signed an order allowing $50,000 as compensation for attorneys for receivers and trustees in the well-known Southern Car & Foundry Co. bankruptcy case.

A POWERFUL PUNCHING PRESS.

This machine is a new type of power press and is specially adapted for heavy punching, cutting, stamping, etc., in the manufacture of some of the fittings for electric motors and dynamos, and also for a great variety of other work requiring an exceedingly heavy pressure. The frame of the press is a solid casting of a very compact design, and weighs about 15,000 lb. The shaft is of large diameter, has a 1¾ in. stroke and has a direct connection with the slide without any adjustment. The adjustment is effected by means of raising or lowering the bed, which, in addition to being well gibbed and securely bolted to the frame by large bolts, is supported on a very heavy screw of large diameter. This screw, which gives an adjustment of one inch to the table, is securely locked by a threaded key with two set-screws. This construction makes the bed of the press quite rigid, and easily capable of carrying the severe strains put upon it.

The press is powerfully geared, and is controlled by an automatic jaw clutch, which positively locks the large gear wheel to the shaft and automatically releases after the press has made one revolution.



A NEW PRESS.

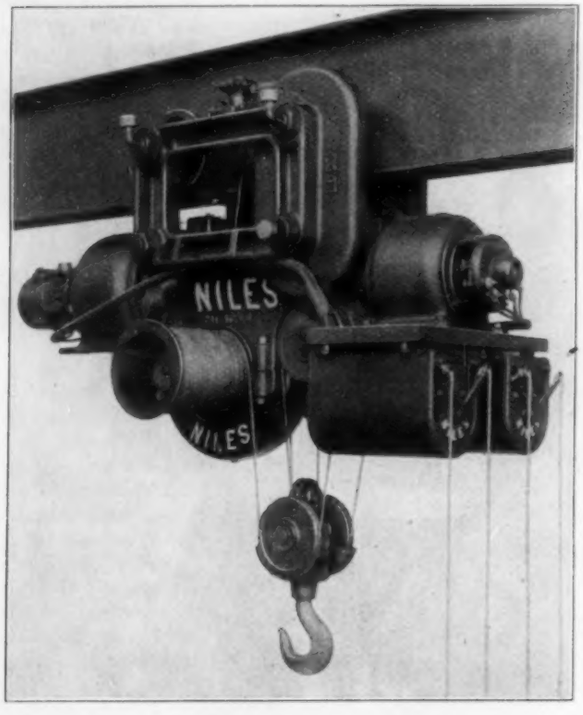
An important feature of the press is the extra long slide and gibs, which are carefully scraped and fitted, and which accurately guide the punches which are held in them, thus insuring long life to the dies. The area of the bed of the press is 17 x 20 in.; distance between the gibs is 16 in. and depth of throat 6 in. Total weight of the press is approximately 17,500 lb. The press has just been built by the E. W. Bliss Co., of Brooklyn, N. Y.

The Barber Tool Co., Oklahoma, Okla., has been incorporated with $5,000 capital stock. The incorporators are: Newton Avery, Melvin Barber, L. Overholser and D. O. Larimer, all of Oklahoma City.

NEW NILES ELECTRIC TRAVELING HOIST.

Now that electric traveling hoists have passed the experimental stage and their use is extending so rapidly, greater care has been given in their design to the question of durability. A new electric traveling hoist has just been completed at the crane department of the Niles-Bement-Pond Co. in Philadelphia.

The new Niles electric traveling hoist is designed for hard continuous service, and fully comes up to this company's standard in quality of work and design of details. As may be seen in the illustration the hoist is of compact design, and is self-contained in one heavy cast iron frame to which the motors are attached end on. The power is transmitted directly from the armature shaft to the drum shaft through one train of worm and worm wheel gears. The traversing mechanism is also driven through one train of worm and worm wheel gears, similar to the hoisting mechanism, except that, when the trolley is arranged to run on a single



SELF-CONTAINED ELECTRIC HOIST.

I-beam, a double set of transmission gears are used. All the mechanism is enclosed in oil and dust-proof casings, and is absolutely noiseless in operation.

In addition to the braking effect obtained by the use of the worm and worm wheel, a powerful electric brake is attached to the hoist motor.

These hoists when mounted on a traveling bridge may be used as small capacity cranes. When used as cranes, the hoists are arranged to run between the two I-beams or channels of the bridge, and the controllers for raising and lowering the hook and operating the traversing mechanism may be placed either on the hoist, on the bridge, and operated by cords from the floor, or in an operator's cage attached to the bridge.

The Niles hoists are built in capacities of ¾ to 6 tons and are usually arranged to run on an I-beam track. They will run on straight and curved tracks, and are generally provided with a separate motor for traversing, but if desired, hand traverse may be furnished, or all traversing mechanism may be omitted and the trolley moved along the track by pushing on the load. The increased service of the electric traverse, however, much more than compensates for the slight additional cost.

PERSONAL.

John Finnerty, formerly superintendent at the Valley works of the Republic Iron & Steel Co., Youngstown, O., has been made general manager of the Cuyahoga Falls Bolt Works, Cuyahoga Falls, O.

Frederick W. Sivyer, president of the Northwestern Malleable Iron Co., Milwaukee, has returned after a three months' trip to Europe.

W. A. Kingsley, president and general manager of the General Fire Roofing Co., Youngstown, O., has resigned to take effect July 1.

Horace W. Fernald, formerly with the Tonawanda Iron & Steel Co., and later with the Buffalo office of Rogers, Brown & Co., has been appointed resident manager at Boston of Rogers, Brown & Co. W. G. Moody retires as Boston manager on account of ill health.

Niven McConnell, on May 25, was elected president of the Passaic Steel Co., Paterson, N. J.

Obituary.

Moritz Mayer, a pioneer iron and metal merchant of St. Louis, died June 10 on the 47th anniversary of his wedding. Mr. Mayer was born near Frankfort, Germany, in 1838 and came to America in 1854.

Andrew Onderdonk, closely associated with the Union Bridge Co., died at his summer home, at Oscawana, N. Y. Age 56. At the time of his death he was engaged in several large contracting jobs.

Jared Dennis, Hartford, Conn., for many years identified with the machinery trade, died June 9. After his services in the navy during the Civil War, Mr. Dennis became superintendent of the Hartford Machine Co., and it was under his direction that the St. Louis pumping engine, which was the greatest of its type at that time, having a capacity of 34,000,000 gallons a day, was erected.

Ralph H. Plumb, president of the Buffalo Bolt Co., Buffalo, N. Y., died at his home in Buffalo, June 10.

Charles Binisch, dealer in iron, metals and second hand machinery, died at his home in Newark, N. J., June 9. Age 28. He was born in Carlsbad, Germany, and when 17 years old came to this country and located at Newark. He gradually built up a business which extended throughout this country and had direct connections in England and Germany.

Louis Lelong, of L. Lelong & Bro., metal refiners, Newark, N. J., died June 14. Age 67 years.

E. D. Clarage, manager of the Cleveland branch of the Crucible Steel Co. of America, resigned June 1, and will leave the company to open a Cleveland branch for the new Columbia Tool Steel Co., of Chicago Heights, Ill. After July 1 he will be located at 121 Bank street, Cleveland, where a full stock of tool steel will be carried. J. L. Mitchell, who has been salesman for the companuy, will be associated with Mr. Clarage in the new company.

On Friday, June 30, $11,450.00 in gold will be distributed amongst 229 employes at the Remington Standard Typewriter Works at Ilion, N. Y. This is the fifth half-yearly bonus distribution and the employes selected consist of the most diligent and efficient men during the past six months who have also been not less than ten years in continuous employment with the company.

All the structural iron work on the Blackwell's Island bridge, New York, for which the Pennsylvania Steel Co. has the contract, was tied up June 23 by a strike ordered by the International Association of Bridge and Structural Iron Workers.

NEWS FROM MANY INDUSTRIES.

New Buyers :—

The Porter Iron Roofing & Corrugating Co., Cincinnati, has been incorporated with $20,000 capital stock. The incorporators are: J. Hartwell Cabell, A. J. Freiburg, Louis J. Hoppe, C. C. Rothier and C. E. Hillman.

The Schwarz Engineering Co., Kerhonkson, N. Y., has been incorporated with $10,000 capital stock to manufacture machinery, tools, etc. The incorporators are: C. Strawder Batt, Tarrytown, N. Y.; Philip S. Hill, 605 West 115th street, New York; B. L. Mason, East Orange, N. J.

The Rivett Lathe Mfg. Co., Kittery, Me., has been incorporated for the purpose of manufacturing and selling the Rivett lathe, Rivett grinder, Rivett milling machines, etc., with $1,000,000 capital stock. The officers are: President, Edward Rivett, of Boston, Mass.; treasurer, Edward Rivett, of Boston, Mass.

The Crab Orchard Iron Co., Carter County, Tenn., has been incorporated with $300,000 capital stock. The incorporators are: J. N. and G. H. Shriver, John W. Wagner, J. C. Herr and James F. Gleason.

The Elyria Foundry Co., Elyria, O., has been incorporated by D. C. Baldwin, O. F. Maynard, W. J. Hengartner, C. C. Lord and A. E. Taylor. The capital stock is $25,000.

The City Brass Foundry Co., Cleveland, has been incorporated by William D. Hirsch, George Hammick, Frank J. Borsek, George Hirsch and Charles Zucker. The capital stock is $10,000.

The Norwalk Iron & Brass Foundry Co., Norwalk, O., has been incorporated by John M. Books Jr., Aaron Townhill, Andrew B. Hamilton, Joe Herrimann and Charles Books. The capital stock is $10,000.

The Paul & Kreuger Rock Drill Co., Montrose, N. Y., has been incorporated with $35,000 capital. The directors are: C. F. Paul Jr., Peekskill; A. A. Kreuger, Westchester; C. F. Young, Stapleton, S. I.

The Smokeless Furnace Co., Salt Lake City, Utah, has been incorporated with $25,000 capital. The company owns a patent smoke consumer which it will manufacture and place on the market. Robert Stoker Sr. is president; Charles Stevenson, vice president; W. G. Margetts, secretary and treasurer.

The Bruce Pattern & Mfg. Co. has been incorporated with a capital of $4,000. The company will commence business in Birmingham, Ala. The officers are: A. C. Bruce, president; W. T. Archer, secretary and treasurer, and J. W. Bruce, general manager.

The National Cast Steel Co., Allegheny, Pa., has been incorporated to deal in steel, iron and other metals. The capital stock is $300,000.

The Ashdown Hardware Co., Little Rock, Ark., has been incorporated with $50,000 capital stock. The incorporators are: H. L. Toland, president; N. C. McCrory, vice president; C. L. Briant, secretary and treasurer.

The Park Auto Co., Wilmington, Del., has been incorporated to deal in auto vehicles. The capital stock is $20,000.

The Dolph Valve Co., Buffalo, N. Y., has been incorporated with $100,000 capital stock. The directors are: J. R. Dolph, J. J. Echle and J. E. Timmons, Buffalo.

The Ogden Iron & Steel Mfg. Co. has been incorporated with $10,000 capital stock. The company is to manufacture iron, steel, managanese, copper and other metals and alloys. The incorporators are: Edward A. Stultz, James L. O'Neill and Edward J. Mastagolio. The registered office is Avenel, N. J.

The L. C. Sharp Machine Works, Omaha, Neb., has been incorporated with $50,000 capital stock. The incorporators are: L. C. Sharp, J. L. Armstrong and David O. Barnell.

The Walsh Safety Lock Snap Co., Detroit, Mich., has been incorporated with a capital stock of $10,000. The stockholders are: Joseph A. Walsh, William F. Fishback and Harry M. Donahue.

The Rogers-Shear Co. has been incorporated with $25,000 capital stock. The company will deal in all kinds of goods, wares and merchandise. The incorporators are all of Warren, Pa.

The Economic Power & Pump Co., Jersey City, N. J., has been incorporated with a capital stock of $250,000. The incorporators are: Thomas J. Howe, Frank D. Tice, William Lander and Thomas Dempsey, all of New York. The company is to manufacture and deal in engines, pumps and locomobiles.

Fires :—

The malleable iron works of William P. Brown, Racine, Wis., together with a large amount of machinery and stock was nearly destroyed by fire June 16. Thirty men are thrown out of employment. The concern was being operated day and night. The loss will exceed $15,000 with an insurance of about $4,500. The plant will be rebuilt.

The machine and wood yard of S. H. Leavell, Abilene, Tex., on June 16 was damaged by fire to the extent of about $7,000, with insurance to the amount of $3,000. The origin of the fire is unknown.

New Construction:—

Montreal Steel Works, Ltd., Montreal, Can., is spending about $200,000 for enlarging and improving its plant, chiefly on extensions to the molding and finishing department of its steel casting plant. Considerable new labor saving machinery of the best type will be installed.

Sargent & Co., hardware manufacturers, New Haven, Conn., has planned large extensions to its works, including a building 50 x 600 ft., five stories high. The foundations for one section of the structure, 237 ft. long, are now being put in.

Harvey Hubbell, Bridgeport, Conn., manufacturer of machinery, machine tools and electrical specialties, is planning to erect substantial additions to his shops.

The Hays Mfg. Co., Erie, Pa., reports that its new buildings will consist of a machine shop, 50 x 160 ft., two stories high, and running parallel with it a foundry building, 60 x 198 ft. The company expects to have these buildings ready for occupancy by Nov. 1. This company is particularly interested in the best and improved equipments for brass foundries and power equipments, and would like to receive catalogues covering those lines.

President F. N. Finney, of the Missouri, Kansas & Texas Railroad, has notified the business men of Parsons, Kan., that the large new machine shops of the railroad company, employing about 1,200 men, will be located there.

Innes-Demarest Stove & Heater Co. has closed a contract with the Carrington-Ford Co., Binghamton, N. Y., for the erection of the manufacturing section of its new plant. The foundry and machine shops will consist of three buildings connected together and will be of brick and mill construction.

The Albany Forge, Albany, N. Y., has begun to erect a building to be used as a blacksmith shop, and a large McDougal-Potter hammer will be installed.

The Stanley Co., Morningside, Mass., has broken ground for the new additions to its foundry building. The two additions are each 200 x 300 ft. Work on the new saw-tooth buildings will be started as soon as the additions are completed.

The Columbus Structural Steel Co., Columbus, O., has broken ground for the large plant to be erected at Buttles avenue and Factory street. Louis P. Hoster is president of the company.

Thomas Beasley, of Litchfield, Ill., will soon commence the

erection of a plant for the manufacture of mining tools at Gadsden, Ala.

Wm. Adam, president of the Adam Steel & Wire Co., Joliet, Ill., has closed the contract for the erection of a new building on the site of the former factory destroyed by fire.

General Industrial Notes:—

The Buffalo, Rochester & Pittsburg Railroad has recently installed at its Buffalo docks a Hulett ore unloader. The bucket has a capacity of 10 gross tons, and the average speed is about one bucket a minute.

The Brooklyn Rapid Transit Co. will shortly ask for bids for a large quantity of machinery to be installed in its East New York shops, where the company expects to expend about $1,000,000 in improvements. John G. Walker, in charge of the mechanical equipment, is laying out the machines and will shortly send out specifications.

The Cincinnati Planer Co. has received an order for 30 planers of the largest sizes for export to Japan and France.

Blandon rolling mills, Blandon, Berks county, Pa., have been started up after being idle for some time.

The American Screw Co. has increased its dividend rates from 4 to 6 percent.

The Woodward Iron Co., Woodward, Ala., on June 21, lighted the fire in No. 3 furnace for the first time. The furnace is modern in every respect, and was built at a cost of $300,000.

The Birdsboro Steel & Foundry Co., Birdsboro, Pa., has opened an office at 718 Real Estate building, Philadelphia, and placed J. W. Warfel in charge. Mr. Warfel has been the company's Eastern representative for several years.

The York rolling mill at York, Pa., has been started after several weeks' idleness.

The Pennsylvania Railroad Co. has started work in one of its new foundries at South Altoona.

All of the mills of the Central Iron & Steel Co. at Harrisburg, Pa., are being run on orders for steel plate for engines being built at various parts of the country, many of them for the Japanese government. Plates for new cars for shipment to foreign countries are also being made.

The Dodge Mfg. Co., Mishawaka, Ind., closed a contract, June 16, for more than $30,000 worth of machinery to be furnished Japan. It is the second order given the Indiana concern by Japan, and the machinery is to be used in the erection of a rolling mill.

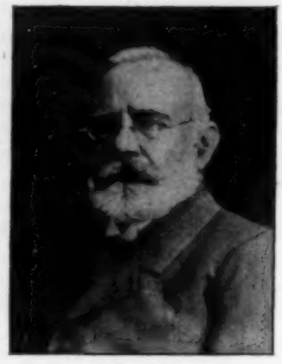
A recent publication of the Watt Car Wheel Co., Barnesville, O., is entitled, "Far Down Beneath the Upper World." It has many views of large coal mines throughout the United States, and these are arranged in a very artistic manner. There are also tables of coal production in the United States and other countries, the coal consumed by street railways in the United States and a number of other features of decided interest.

The Warren Axe & Tool Co., of Warren, Pa., is the sole owners of the Sager chemical process for treating metals. Its product is hand forged, and the capacity of the factory is 1,500 axes daily. A catalogue of recent publication goes into further details with reference to the diversified product of the company and makes an impressive showing of the great variety of axes and lumberman's tools made by the one concern.

The E. Keeler Co., of Williamsport, Pa., has a neat catalogue on boilers. This contains 72, 6 x 9 in. pages, and presents considerable information about boilers, superheaters and other power plant equipment. There are many excellent halftones of buildings and boiler installations, together with a number of tables relative to the height of stacks, horsepower of boilers, evaporation and other matters of interest to managers, owners and operators of steam plants.

CIVIL ENGINEERS AT CLEVELAND.

Establishment of Local Chapters Discussed—Lorain Plants Visited.



C. C. SCHNEIDER.

The 37th Annual Convention of the American Society of Civil Engineers, held at Cleveland, last week, was one of the most successful gatherings of that body, but its features were more of a social than business nature, the greater portion of the time being devoted to an interchange of ideas among the members, outside of the regular sessions.

Each year the annual summer gathering has taken on more of a social aspect and at this session there were no technical papers read or discussions indulged in and the sentiment of the members, when the selection of the next place of meeting came up for settlement, was that hereafter the meetitngs should be held at some popular summer resort with accommodations sufficient for the large number who would attend under such conditions. The selection was left to the board of direction, as was also the proposition of establishing local chapters of the American Society in the various large cities. This proposition did not meet with much favor as it was thought the local chapters might tend to disrupt other local organizations and in the end not serve to strengthen the American Society.

On Friday a special all-day excursion was made to Lorain, O., on the steamer State of New York, and the members visited the Lorain yards of the American Ship Building Co., the plant of the National Tube Co. and the Baltimore & Ohio terminals at that place.

CHARLES C. SCHNEIDER.

Charles Conrad Schneider, president of the American Society of Civil Engineers, is a graduate of the Pencoyd Iron Works of Philadelphia, Pa. His ability and achievements were properly appreciated upon the formation of the American Bridge Co. He was made vice president of the company with charge of the engineering department. He was born in Apolda, Duchy of Saxe-Weimar, Germany, April 24, 1843, and received his education in the schools of his native city and in the Royal School of Technology, at Chemnitz, Germany. After leaving school he served an apprenticeship in a machine shop to gain a practical knowledge of the working of iron and later began the study of civil and mechanical engineering. In 1868 he came to the United States and for three years was employed as a draughtsman in the Rogers Locomotive Works, Paterson, N. J. Leaving this plant, he accepted the position of assistant engineer of the Michigan Bridge & Construction Co., at Detroit, Mich. In 1873 he was placed in charge of the engineering department of the Erie railroad with offices in New York City, which position he held for two years. The following two years he was engaged as designer for the Delaware Bridge Co., and from 1877 to 1886 he practiced his profession as consulting engineer at New York. In 1886 he accepted the position of chief engineer of bridge construction of the Pencoyd Iron Works, Philadelphia, which position he held until the formation of the American Bridge Company.

The Iron Trade Review has had some description of the Adams-Farwell revolving cylinder gasoline motor. This machine is illustrated with considerable detail in a pamphlet sent out by the Adams Co., of Dubuque, Ia.